

Adding 7

Do not use a calculator

Add these together.

$$\begin{array}{r} 1) \\ 33 \\ + 12 \\ \hline 13 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \\ 36 \\ + 13 \\ \hline 26 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \\ 18 \\ + 25 \\ \hline 57 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \\ 45 \\ + 8 \\ \hline 36 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \\ 54 \\ + 23 \\ \hline 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \\ 56 \\ + 31 \\ \hline 19 \\ \hline \end{array}$$

$$\begin{array}{r} 7) \\ 23 \\ 11 \\ 45 \\ + 13 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8) \\ 21 \\ 6 \\ 50 \\ + 18 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9) \\ 42 \\ 15 \\ 19 \\ + 29 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 10) \\ 54 \\ 12 \\ 21 \\ + 19 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 11) \\ 28 \\ 12 \\ 27 \\ + 16 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 12) \\ 31 \\ 15 \\ 9 \\ + 35 \\ \hline \\ \hline \end{array}$$

13) $7 + 18 + 23 + 14$

14) $34 + 16 + 9 + 14$

15) $17 + 39 + 22 + 9$

16) $54 + 6 + 9 + 15$

01. Addition Answers

1. Adding 1

3 + 2 = 5 5 + 3 = 8 3 + 5 = 8 7 + 2 = 9
4 + 5 = 9

2. Adding 2

1) 5 2) 6 3) 1 4) 3 5) 9 6) 7 7) 8 8) 6
9) 3 10) 6 11) 4 12) 7

3. Adding 3

1) 16 2) 19 3) 18 4) 30 5) 36 6) 49 7) 39
8) 42 9) 55 10) 44 11) 62 12) 71 13) 16
14) 22 15) 24 16) 28 17) 42 18) 49 19) 72
20) 91 21) 82

4. Adding 4

1) 27 2) 27 3) 28 4) 36 5) 39 6) 49 7) 55
8) 58 9) 69 10) 85 11) 79 12) 75 13) 42
14) 41 15) 44 16) 71 17) 58 18) 69 19) 93
20) 81 21) 68

5. Adding 5

1) 58 2) 51 3) 69 4) 79 5) 62 6) 69 7) 75
8) 86 9) 91 10) 85 11) 99 12) 95 13) 62 14) 75
15) 91 16) 72 17) 79 18) 90 19) 91 20) 72
21) 81

6. Adding 6

1) 20 2) 35 3) 37 4) 38 5) 36 6) 55 7) 59
8) 71 9) 77 10) 85 11) 96 12) 84 13) 62
14) 44 15) 74 16) 70

7. Adding 7

1) 58 2) 75 3) 100 4) 89 5) 86 6) 106 7) 92
8) 95 9) 105 10) 106 11) 83 12) 90 13) 62
14) 73 15) 87 16) 84

8. Adding 8

1) 264 2) 328 3) 332 4) 472 5) 468 6) 531
7) 585 8) 697 9) 729 10) 802 11) 866 12) 753
13) 271 14) 265 15) 292 16) 717 17) 845
18) 370

9. Adding 9

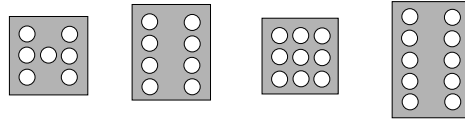
1) 464 2) 298 3) 505 4) 780 5) 759 6) 812
7) 1117 8) 1437 9) 1243 10) 1295 11) 1017
12) 1221 13) 763 14) 654 15) 1160 16) 909
17) 863 18) 1491

10. Adding 10

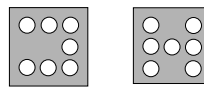
1) 1200 2) 1104 3) 1199 4) 579 5) 1514
6) 1124 7) 1017 8) 1848 9) 1272 10) 1520
11) 2310 12) 1869 13) 615 14) 969 15) 720
16) 477

11. Dot Patterns 1

1) Examples



2) Examples



12. Dot Patterns 2

1 + 2 + 3 = 6
2 + 1 + 4 = 7
4 + 3 + 2 = 9
5 + 3 + 1 = 9
4 + 2 + 6 = 12
5 + 6 + 2 = 13
5 + 4 + 6 = 15

13. Adding in Stages

1) 37 + 26	2) 45 + 37	3) 15 + 45
37 + 20 + 6	45 + 30 + 7	15 + 40 + 5
57 + 6	75 + 7	55 + 5
63	82	60
4) 24 + 54	5) 34 + 65	6) 56 + 21
24 + 50 + 4	34 + 60 + 5	56 + 20 + 1
74 + 4	94 + 5	76 + 1
78	99	77
7) 34 + 77	8) 54 + 32	9) 43 + 52
34 + 70 + 7	54 + 30 + 2	43 + 50 + 2
104 + 7	84 + 2	93 + 2
111	86	95
10) 39 + 27	11) 41 + 26	12) 53 + 19
39 + 20 + 7	41 + 20 + 6	53 + 10 + 9
59 + 7	61 + 6	63 + 9
66	67	72
13) 23 + 76	14) 59 + 22	
23 + 70 + 6	59 + 20 + 2	
93 + 6	79 + 2	
99	81	

Subtracting in Stages

Do not use a calculator

45 – 28 can be done like this.

Start at 28 28 to 30 is 2

30 to 40 is 10

40 to 45 is 5

so 28 to 45 is $2 + 10 + 5 = 17$

so $45 - 28 = 17$

1) Finish this one off:-

52 – 37

Start at 37 37 to 40 is 3

40 to 50 is ...

50 to 52 is ...

so 37 to 52 is $3 + \dots + \dots = \dots$

so $52 - 37 = \dots$

Now do these in the same way.

2) $42 - 14$

3) $38 - 19$

4) $56 - 24$

5) $48 - 17$

6) $67 - 32$

7) $55 - 36$

8) $87 - 32$

9) $74 - 35$

03. Subtraction Answers

1. Subtraction 1

$6 - 2 = 4$ $7 - 3 = 4$ $5 - 2 = 3$ $9 - 5 = 4$
 $8 - 4 = 4$

2. Subtraction 2

1) 3 2) 2 3) 2 4) 7 5) 3 6) 4 7) 9 8) 8
9) 1 10) 0 11) 8 12) 9

3. Subtraction 3

1) 6 2) 6 3) 3 4) 6 5) 9 6) 8 7) 15 8) 28
9) 33 10) 44 11) 48 12) 67 13) 36 14) 21
15) 31 16) 48 17) 56 18) 39 19) 68 20) 83
21) 65

4. Subtraction 4

1) 3 2) 7 3) 8 4) 8 5) 16 6) 11 7) 23 8) 5
9) 18 10) 18 11) 38 12) 28 13) 11 14) 30
15) 6 16) 19 17) 42 18) 16 19) 22 20) 48
21) 66

5. Subtraction 5

1) 204 2) 120 3) 311 4) 429 5) 318 6) 297
7) 227 8) 312 9) 421 10) 433 11) 628 12) 418
13) 143 14) 228 15) 219 16) 737 17) 322
18) 591 19) 564 20) 772 21) 97

6. Subtraction 6

1) 81 2) 109 3) 112 4) 181 5) 161 6) 289
7) 328 8) 508 9) 456 10) 618 11) 810 12) 529
13) 109 14) 207 15) 714 16) 554 17) 757
18) 480 19) 637 20) 646 21) 593

7. Subtraction 7

1) 94 2) 215 3) 95 4) 270 5) 100 6) 200
7) 243 8) 456 9) 363 10) 100 11) 659 12) 707
13) 33 14) 592 15) 329 16) 340 17) 301
18) 232 19) 390 20) 751 21) 296

8. Subtraction 8

1) 9 2) 16 3) 37 miles 4) 137cm 5) 416
6) 64 7) 127 8) 17

9. Subtracting in Stages

1) 37 to 40 is 3
40 to 50 is 10
50 to 52 is 2
so 37 to 52 is $3 + 10 + 2 = 15$
so $52 - 37 = 15$

2) 14 to 20 is 6
20 to 40 is 20
40 to 42 is 2
so 14 to 42 is $6 + 20 + 2 = 28$
so $42 - 14 = 28$

3) 19 to 20 is 1
20 to 30 is 10
30 to 38 is 8
so 19 to 38 is $1 + 10 + 8 = 19$
so $38 - 19 = 19$

4) 24 to 30 is 6
30 to 50 is 20
50 to 56 is 6
so 24 to 56 is $6 + 20 + 6 = 32$
so $56 - 24 = 32$

5) 17 to 20 is 3
20 to 40 is 20
40 to 48 is 8
so 17 to 48 is $3 + 20 + 8 = 31$
so $48 - 17 = 31$

6) 32 to 40 is 8
40 to 60 is 20
60 to 67 is 7
so 32 to 67 is $8 + 20 + 7 = 35$
so $67 - 32 = 35$

7) 36 to 40 is 4
40 to 50 is 10
50 to 55 is 5
so 36 to 55 is $4 + 10 + 5 = 19$
so $55 - 36 = 19$

8) 32 to 40 is 8
40 to 80 is 40
80 to 87 is 7
so 32 to 87 is $8 + 40 + 7 = 55$
so $87 - 32 = 55$

9) 35 to 40 is 5
40 to 70 is 30
70 to 74 is 4
so 35 to 74 is $5 + 30 + 4 = 39$
so $74 - 35 = 39$

Counting On

Do not use a calculator

Matthew works in a flower shop.

He sells a bunch of flowers for £13.45.

The customer pays with a £20 note.

He gives the customer change like this.

£13.45 to £13.50 is 5p

£13.50 to £14.00 is 50p

£14.00 to £20 is £6.00

So Matthew gives the customer $£6.00 + 50p + 5p = £6.55$

Do these in the same way.

Work out the change given.

- 1) A pair of trainers costing £26.50 is bought with a £50 note.
- 2) A t-shirt costing £12.55 is bought with a £20 note.
- 3) A ream of paper costing £4.76 is bought with a £10 note.
- 4) A poster costing £6.52 is bought with a £10 note.
- 5) A calendar costing £8.43 is bought with a £10 note.
- 6) A radio costing £27.54 is bought with two £20 notes.

Do these in the same way.

- 7) £10 – £2.56
- 8) £20 – £12.30
- 9) £30 – £22.47
- 10) £60 – £42.61

Multiplication Problems 1

Do not use a calculator

- 1) Katie's sister earns £7 per hour in her part time job.
She works for 14 hours at the weekend.
How much is she paid?

- 2) There are 9 rows of car parking spaces at the supermarket.
22 cars can park in each row.
How many cars can park at the supermarket?

- 3) One panel of garden fencing is made from 14 strips of wood.
The fence at the end of the garden has 6 panels.
How many strips is this altogether?

- 4) There are 52 cards in a pack.
Jenny has 7 packs of cards.
How many cards does she have altogether?

- 5) Bobbi buys 15 boxes of eggs for her cafe.
Each box contains 6 eggs.
How many eggs does she buy altogether?

- 6) A chocolate box contains 25 chocolates.
Jane buys 7 boxes for a children's party.
How many chocolates has she bought?

- 7) A plastic bottle holds 3 litres of milk.
How many litres are there in 22 bottles?

Multiplying Decimals 1

Do not use a calculator

Multiply these.

1)
$$\begin{array}{r} 2.4 \\ \times 4 \\ \hline \\ \hline \end{array}$$

2)
$$\begin{array}{r} 4.3 \\ \times 2 \\ \hline \\ \hline \end{array}$$

3)
$$\begin{array}{r} 5.6 \\ \times 6 \\ \hline \\ \hline \end{array}$$

4)
$$\begin{array}{r} 4.2 \\ \times 5 \\ \hline \\ \hline \end{array}$$

5)
$$\begin{array}{r} 5.3 \\ \times 7 \\ \hline \\ \hline \end{array}$$

6)
$$\begin{array}{r} 6.5 \\ \times 3 \\ \hline \\ \hline \end{array}$$

7)
$$\begin{array}{r} 0.7 \\ \times 6 \\ \hline \\ \hline \end{array}$$

8)
$$\begin{array}{r} 4.7 \\ \times 8 \\ \hline \\ \hline \end{array}$$

9)
$$\begin{array}{r} 9.4 \\ \times 1 \\ \hline \\ \hline \end{array}$$

10)
$$\begin{array}{r} 6.2 \\ \times 4 \\ \hline \\ \hline \end{array}$$

11)
$$\begin{array}{r} 5.9 \\ \times 6 \\ \hline \\ \hline \end{array}$$

12)
$$\begin{array}{r} 8.5 \\ \times 8 \\ \hline \\ \hline \end{array}$$

13) 6.8×3

14) 4.6×5

15) 8.4×8

16) 9.3×7

17) 5.8×6

18) 6.8×0

19) 7.3×1

20) 5.3×3

21) 7.8×5

Tests for Dividing 2

Do not use a calculator

Which of these numbers will 5 divide into exactly?

9

15

32

45

50

67

71

75

83

87

90

99

106

132

190

225

338

462

555

680

753

800

854

915

07. Division Answers

1. Dividing 1

- 1) 6 2) 9 3) 10 4) 12 5) 16 6) 23 7) 5 8) 7
9) 10 10) 13 11) 14 12) 17 13) 5 14) 8
15) 11 16) 12 17) 14 18) 16 19) 5 20) 8
21) 12 22) 14 23) 15 24) 18

2. Dividing 2

- 1) 10 r 1 2) 15 r 1 3) 18 r 1 4) 21 r 1 5) 24 r 1
6) 31 r 1 7) 8 r 1 8) 10 r 1 9) 13 r 1 10) 15 r 2
11) 17 r 1 12) 22 r 2 13) 6 r 3 14) 9 r 3 15) 13 r 3
16) 15 r 3 17) 18 r 2 18) 21 r 1 19) 6 r 1
20) 9 r 2 21) 11 r 3 22) 13 r 1 23) 14 r 3
24) 18 r 4

3. Dividing 3

- 1) 7 2) 9 3) 11 4) 13 5) 15 6) 16 7) 4 8) 6
9) 8 10) 11 11) 13 12) 14 13) 4 14) 6 15) 8
16) 10 17) 11 18) 12 19) 3 20) 5 21) 7
22) 9 23) 10 24) 11

4. Dividing 4

- 1) 6 r 2 2) 8 r 2 3) 10 r 5 4) 11 r 5 5) 13 r 5
6) 15 r 4 7) 4 r 2 8) 5 r 4 9) 6 r 6 10) 8 r 4
11) 10 r 5 12) 13 r 1 13) 3 r 1 14) 4 r 7
15) 6 r 5 16) 9 r 5 17) 10 r 2 18) 12 r 2 19) 3 r 3
20) 4 r 3 21) 5 r 6 22) 7 r 3 23) 9 r 7 24) 10 r 5

5. Dividing 5

- 1) 62 2) 93 3) 97 4) 48 5) 62 6) 104 7) 36
8) 54 9) 41 10) 25 11) 37 12) 50 13) 21
14) 36 15) 47 16) 31 17) 61 18) 92 19) 26
20) 31 21) 43 22) 24 23) 36 24) 39

6. Dividing 6

- 1) 65 r 1 2) 82 r 1 3) 102 r 1 4) 81 r 1 5) 73 r 2
6) 117 r 1 7) 27 r 1 8) 54 r 1 9) 71 r 2
10) 28 r 3 11) 44 r 3 12) 76 r 1 13) 39 r 2
14) 55 r 1 15) 75 r 3 16) 32 r 4 17) 54 r 6
18) 63 r 2 19) 42 r 5 20) 55 r 2 21) 67 r 4
22) 24 r 7 23) 42 r 7 24) 49 r 8

7. Dividing 7

- 1) 14 2) 16 3) 15 4) 13 5) 16 6) 24 7) 19
8) 22 9) 31 10) 32 11) 37 12) 26 13) 35
14) 18 15) 15 16) 54 17) 62 18) 28

8. Dividing 8

- 1) 19 r 3 2) 23 r 10 3) 19 r 2 4) 19 r 14
5) 12 r 23 6) 26 r 8 7) 18 r 9 8) 16 r 7 9) 24 r 3

- 10) 12 r 18 11) 26 r 11 12) 34 r 12 13) 32 r 20
14) 21 r 7 15) 25 r 21 16) 20 r 2 17) 55 r 11
18) 33 r 8

9. Dividing Problems 1

- 1) 31 2) a) 15 r 1 b) 7 3) 12 4) 18 5) a) 33
b) 3p 6) 21

10. Dividing Problems 2

- 1) 21 2) 15 3) 94 4) 14 5) 13 6) 24
7) a) 26 b) 10

11. Dividing Problems 3

- 1) 36 2) 29 3) 16 4) 32 5) 73 6) a) 33 b) 5p

12. Dividing Problems 4

- 1) a) 25 b) 20 c) 500 2) 25 3) a) 28 and 16
b) 12 4) 24 5) 17 6) 24

13. Tests For Dividing 1

- 8, 16, 36, 62, 76, 82, 112, 146, 352, 462, 546,
688, 798, 834, 916

14. Tests For Dividing 2

- 15, 45, 50, 75, 90, 190, 225, 555, 680, 800, 915

15. Tests For Dividing 3

- 1) 50, 90, 110, 650, 700, 910, 990
2) 60, 80, 120, 170, 500, 590, 620

16. Tests For Dividing 4

- 1) yes 2) no 3) no 4) no 5) yes 6) yes 7) no
8) no 9) yes 10) yes 11) no 12) no 13) no
14) no 15) no 16) yes 17) yes 18) yes 19) no
20) yes

17. Tests For Dividing 5

- 1) a) no b) yes c) no d) no e) yes f) no g) no
h) yes
2) a) no b) no c) yes d) no e) no f) no g) yes
h) yes i) no j) no k) no l) no

18. Tests For Dividing 6

- 1) yes. Any order of the numbers 3, 7, 8 and 9
2) a) 3 b) 3,6 c) 3 d) no e) no f) no g) 3,6
h) no

Negative Numbers 9

In each of the questions below, use one of these six cards to complete it.

-1

-2

-3

+4

+5

+6

a) $+2 + +4 =$

b) $+6 +$ $= +4$

c) $+3 +$ $= +7$

d) $-1 + +5 =$

e) $-2 +$ $= -4$

f) $-6 +$ $= -1$

g) $+ -4 = +2$

h) $+7 + -3 =$

i) $-2 + +1 =$

j) $+ -2 = -5$

09. Negative Numbers Answers

Negative Numbers 1

- 1) 25 2) 10 3) -5 4) -2°C 5) -10°C 6) 30°C
7) Winter 8) Summer

Negative Numbers 2

- 1) 2 2) -4 3) 4 4) 2 5) 6 6) -7 7) -3
8) -2 9) 3 10) -1 11) -4 12) -1

Negative Numbers 3

- 1) -5°C 2) 35°C 3) -5°C 4) 3°C 5) -4°C
6) 13°C 7) a) Lunch Time b) 3 o'clock c) Hotter

Negative Numbers 4

- 1) 2 2) -5 3) 5 4) -2 5) -2 6) 4000 7) 3000
8) 2000 9) 1500 10) 1400 11) 2400

Negative Numbers 5

- 1) 8 2) 3 3) 15 4) 105 5) 37 6) a) 24 b) 17

Negative Numbers 6

- 1) 0, 1, 2, 3, 4, 5, 6, 7
2) -7, -6, -5, -4, -3, -2, -1, 0
3) -5, -3, -2, -1, 0, 5, 7, 9
4) -9, -6, -5, -2, 0, 1, 4, 8
5) -8, -6, -3, -2, -1, 0, 1, 5

- 6) -6, -2, -2, -1, 0, 5, 5, 9
7) -25, -10, 5 8) -5, 10, 20
9) -35, -30, -20, -10, -5
10) -10, -8, -6, -2, 4

Negative Numbers 7

- 1) 19°C 2) 16 3) 35°C 4) -10°C 5) 45°C 6) 18°C
7) -1°C 8) -4°C 9) -8°C 10) a) -13°C b) 22°C

Negative Numbers 8

- a) -5 b) -3 c) -3 d) -5

Negative Numbers 9

- a) +6 b) -2 c) +4 d) +4 e) -2 f) +5 g) +6
h) +4 i) -1 j) -3

Negative Numbers 10

- a) -3 b) 0 c) +7 d) -9 e) +7 f) -9 g) -1
h) -1 i) -3

Negative Numbers 11

- a) +4 b) +8 c) -1 d) -3 e) +10 f) -7 g) -7
h) +8 i) -1 j) +10

Making Numbers 1

Here are 4 cards.

3

8

4

1

They can make other numbers.

Like this.

3	8
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8	4	1
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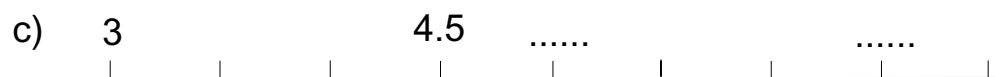
1	8	4	3
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Use the cards to do these

- 1) Write down 6 numbers beginning with a 1.
- 2) Write down 6 numbers beginning with a 3.
- 3) Write down 6 numbers beginning with a 4.
- 4) Write down 6 numbers beginning with an 8.
- 5) Write down 5 numbers having 2 digits.
- 6) Write down 5 numbers having 3 digits.
- 7) Write down 5 numbers having 4 digits.

Number Lines 3

Fill in the missing numbers.

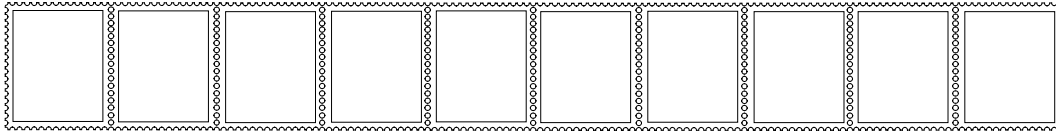


Tens, Hundreds and Whole Numbers 1

Do not use a calculator

Postage stamps are made in sheets of 200.

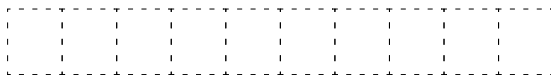
Each row has 10 stamps in it.



1) How many rows are there on a sheet of stamps?

Graham asks at the post office for 45 second class stamps.

The counter clerk gives him 4 rows of stamps and 5 more.



2) Karen asks for 73 stamps.

How many rows and how many single stamps is she given?

3) At the end of the day, the counter clerk has sold 3 sheets and 2 rows of second class stamps. How many stamps is this?

12. Place Value Answers

1. 10's, 100's and 1000's 1

- 1) a) 30 b) 250 c) 370 d) 1000 e) 2100 f) 4050
2) a) 600 b) 1900 c) 5400 d) 68,000 e) 10,400
f) 53,100 3) a) 6000 b) 12,000 c) 36,000
d) 90,000 e) 111,000 f) 185,000 4) a) 5 b) 9
c) 20 d) 25 e) 38 f) 57 5) a) 2 b) 9 c) 10

2. 10's, 100's and 1000's 2

- 1) a) 34 b) 57 c) 147 d) 4.3 e) 1.2 f) 0.6
2) a) 20,000 b) 480 c) 1560 d) 16 e) 2.4 f) 0.24
3) a) 2600 b) 9200 c) 34,700 d) 800 e) 70 f) 4.5
4) a) 23.5 b) 123.5 c) 1.23 d) 6.5013 e) 0.054
f) 0.00653 5) a) 0.67 b) 4.276 c) 0.2267 d) 0.008
e) 0.0094 f) 0.00673 6) a) 0.03476 b) 0.09903
c) 0.00794 d) 0.0000045 e) 0.000027
f) 0.00000053

3. 10's, 100's and 1000's 3

- 1) a) 2.57 b) 257 c) 2570
2) a) 13.54 b) 0.1354 c) 0.01354
3) a) 700 b) 1400 c) 350 d) 14,000
4) a) 0.048 b) 0.024 c) 0.096 d) 0.48
5) From top right clockwise
a) 0.176 b) 10,000 c) 1.76 d) 100 e) 176
f) 0.0176 g) 1 h) 10

4. 10's, 100's and Whole Numbers 1

- 1) 20 2) 7 rows and 3 single stamps 3) 620

5. 10's, 100's and Whole Numbers 2

- 1) 17 2) a) 50, 110, 130, 900, 1200, 3560
b) 9, 3, 4, 6, 3, 2, 8, 1, 2, 0, 8
c) 300, 1000, 1200
d) 21, 72, 36, 22, 26, 21, 62, 62, 51, 42
3) a) 35 miles b) 245 miles

6. Tens, Hundreds and Decimals 1

- 1) a) 2.7cm b) 3.8cm c) 5.2cm d) 8.5cm
e) 12.4cm f) 25.6cm 2) a) 1.28cm b) 3.41cm
5.62cm d) 4.81cm e) 7.56cm f) 9.41cm
3) 58.5 miles 4) a) £131 b) £786 c) £13.10
d) £812.20 5) a) £615 b) £1165.60 c) 3526.20
6) a) £3.80 b) £0.95

7. Tens, Hundreds and Decimals 2

- 1) 14cm 2) a) 6 metres b) 12 metres c) 15 metres
3) a) £1.60 b) £16 c) £41.60

8. Place Value

- | | | |
|--------------|-------------|----------------|
| Six units, | Four tens, | Nine hundreds |
| Five units, | Two tens, | Five hundreds |
| Five tens, | Two units | Three hundreds |
| Five units, | Six tens, | Nine hundreds |
| Five units, | Seven tens, | Four tens |
| Six hundreds | Five units | Seven hundreds |

Number Chains 4

Do not use a calculator

Write down the next 3 numbers in these chains.
In each case say what the rule is.

a) $1 \longrightarrow 2 \longrightarrow 4 \longrightarrow 8 \longrightarrow 16 \longrightarrow$

b) $1 \longrightarrow 3 \longrightarrow 9 \longrightarrow 27 \longrightarrow 81 \longrightarrow$

c) $1 \longrightarrow 1 \longrightarrow 2 \longrightarrow 3 \longrightarrow 5 \longrightarrow$

d) $1 \longrightarrow 2 \longrightarrow 4 \longrightarrow 7 \longrightarrow 11 \longrightarrow$

e) $5 \longrightarrow 3 \longrightarrow 1 \longrightarrow -1 \longrightarrow -3 \longrightarrow$

f) $5 \longrightarrow 2 \longrightarrow -1 \longrightarrow -4 \longrightarrow -7 \longrightarrow$

g) $-9 \longrightarrow -7 \longrightarrow -5 \longrightarrow -3 \longrightarrow -1 \longrightarrow$

h) $-8 \longrightarrow -6 \longrightarrow -4 \longrightarrow -2 \longrightarrow 0 \longrightarrow$

i) $-20 \longrightarrow -17 \longrightarrow -14 \longrightarrow -11 \longrightarrow -8 \longrightarrow$

j) $7 \longrightarrow 3 \longrightarrow -1 \longrightarrow -5 \longrightarrow -9 \longrightarrow$

k) $8 \longrightarrow 4 \longrightarrow 2 \longrightarrow 1 \longrightarrow \frac{1}{2} \longrightarrow$

Comparing 2

< means is less than

> means is greater than

= means is equal to

For example

$$6 > 4 \quad 3 < 5 \quad 1 + 3 = 2 + 2 \quad 16 - 2 = 8 + 6$$

1) Put one of these signs between each of these.

a) 15 20

b) 18 4

c) 17 26

d) 13 17

e) 5 23

f) 5 8

g) 12 5

h) 4 + 3 8

i) 3 + 7 10

j) 5 + 3 10

k) 8 + 4 7 + 5

l) 6 - 4 4

2) a) Write down a number which is < 7 and > 5.

b) Write down a square number > 4 and < 10.

c) Write down a multiple of 3 which is > 4 and < 8.

d) Write down a square number > 20 and < 30.

e) Write down a factor of 50 which is < 15 and > 6.

f) Write down all the prime number which are < 30 and > 20.

g) There are two square numbers > 60 and < 90. What are they?

h) Which two multiples of 6 are > 31 and < 44?

i) A factor of 80 is < 20 and > 10. What is it?

j) A number is a factor of 128 and a factor of 320. It is > 20 and < 40.

What is it?

14. Comparing Answers

Comparing 1

a) < b) > c) > d) < e) < f) > g) < h) <
i) < j) > k) = l) < m) < n) < o) < p) >
q) = r) > s) = t) > u) > v) <

Comparing 2

1) a) < b) > c) < d) < e) < f) < g) > h) <
i) = j) < k) = l) <
2) a) 6 b) 9 c) 6 d) 25 e) 10 f) 23, 29
g) 64 and 81 h) 36 and 42 i) 16 j) 32

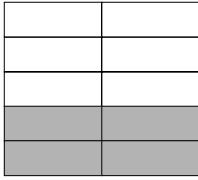
Comparing 3

1) a) < b) < c) < d) > e) > f) < g) < h) >
i) < j) = k) < l) > m) < n) =
2) a) - b) + c) + d) + e) + + f) - + g) -
h) + i) + j) + - k) + - l) - + m) - n) -

Equivalent Fractions 2

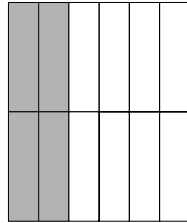
Which of these show $\frac{1}{3}$?

a)



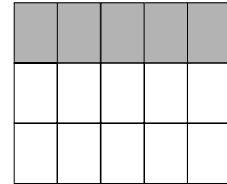
$$\frac{4}{10}$$

b)



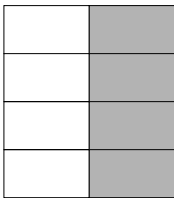
$$\frac{4}{12}$$

c)



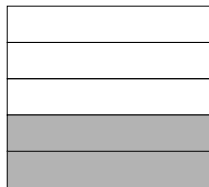
$$\frac{5}{15}$$

d)



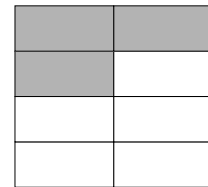
$$\frac{4}{8}$$

e)



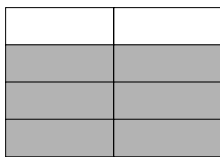
$$\frac{2}{5}$$

f)



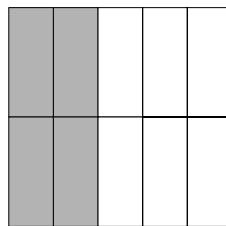
$$\frac{3}{8}$$

g)



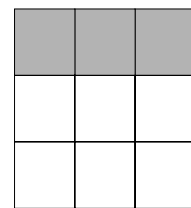
$$\frac{6}{8}$$

h)



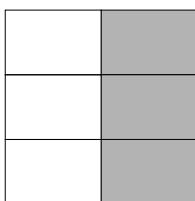
$$\frac{4}{10}$$

i)



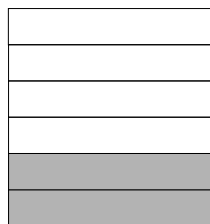
$$\frac{3}{9}$$

j)



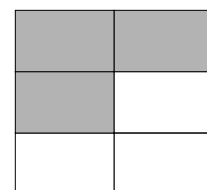
$$\frac{3}{6}$$

k)



$$\frac{2}{6}$$

l)



$$\frac{3}{6}$$

Cancelling Fractions 4

1) Cancel down each of these fractions and say which have a value of $\frac{2}{3}$

$$\frac{12}{15},$$

$$\frac{8}{10},$$

$$\frac{7}{14},$$

$$\frac{6}{9},$$

$$\frac{6}{12}$$

$$\frac{8}{12},$$

$$\frac{10}{15},$$

$$\frac{14}{30},$$

$$\frac{12}{18},$$

$$\frac{12}{20},$$

2) Cancel down each of these fractions.

List them in order of size, smallest first.

$$\frac{12}{30},$$

$$\frac{12}{15},$$

$$\frac{5}{25},$$

$$\frac{12}{20}$$

In questions 3, 4 and 5 give your answer as a fraction in its lowest terms.

3) In a school of 500 pupils, 300 are girls and 200 are boys.

a) What fraction of the school are boys?

b) What fraction of the school are girls?

4) A village needs to collect £5,000 to repair the church steeple

When it has collected £3,500, what fraction of the total will it have left to collect?

5) Bill cuts a length of wood into two pieces.

One measures 45cm and the other measures 65cm.

What fractions has the wood been cut into?

22. Cancelling Fractions 5

- 1) a) $\frac{3}{4}$ b) $\frac{9}{20}$ c) $\frac{4}{5}$ d) $\frac{7}{15}$ e) $\frac{2}{5}$ f) $\frac{1}{4}$ g) $\frac{1}{4}$
 h) $\frac{1}{3}$ i) $\frac{1}{19}$ j) $\frac{7}{20}$ k) $\frac{1}{2}$ l) $\frac{3}{4}$ m) $\frac{1}{5}$ n) $\frac{17}{20}$ o) $\frac{1}{8}$
 2) $\frac{8}{20}, \frac{4}{10}, \frac{6}{15}$ 3) $\frac{30}{150}, \frac{8}{20}, \frac{12}{24}, \frac{18}{30}, \frac{14}{20}, \frac{20}{25}$

23. Mixed Fractions 1

- 1) a) $\frac{5}{9}$ b) $\frac{4}{9}$ 2) a) $\frac{3}{5}$ b) $\frac{2}{5}$ 3) a) $\frac{13}{24}$ b) $\frac{11}{24}$
 4) a) $\frac{4}{15}$ b) $\frac{11}{15}$ 5) $\frac{2}{5}$

24. Mixed Fractions 2

- 1) a) $\frac{4}{11}$ b) $\frac{4}{11}$ c) $\frac{2}{11}$ d) $\frac{1}{11}$ 2) a) $\frac{3}{7}$ b) $\frac{1}{5}$
 c) $\frac{13}{35}$ 3) $\frac{1}{4}$ 4) a) $\frac{14}{17}$ b) $\frac{3}{17}$ 5) a) $\frac{8}{13}$ b) $\frac{5}{13}$

25. Mixed Fractions 3

- 1) a) $\frac{4}{5}$ b) $\frac{1}{5}$ 2) a) $\frac{1}{4}$ b) $\frac{3}{4}$ 3) a) $\frac{5}{11}$ b) $\frac{2}{11}$
 c) $\frac{1}{11}$ d) $\frac{1}{11}$ e) $\frac{2}{11}$ 4) a) $\frac{9}{20}$ b) $\frac{2}{5}$ c) $\frac{3}{20}$

26. Mixed Fractions 4

- 1) no 2) yes 3) $\frac{1}{8}$ 4) 2 5) 2 6) 4
 7) $\frac{1}{12}, \frac{1}{8}, \frac{1}{7}, \frac{1}{5}, \frac{1}{4}, \frac{1}{3}, \frac{1}{2}$ 8) $\frac{1}{4}$ 9) $\frac{7}{10}$
 10) a) $\frac{1}{19}$ b) $\frac{18}{19}$ 12) a) $\frac{2}{3}$ b) $\frac{1}{4}$ c) $\frac{1}{12}$

27. Mixed Fractions 5

- 1) 3 2) 2 3) 5 4) 4 5) 2 6) 3 7) no 8) no
 9) yes 10) yes 11) $\frac{1}{8}$ 12) $\frac{1}{3}$
 13) $\frac{1}{10}, \frac{1}{9}, \frac{1}{8}, \frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{1}{3}$

28. Calculating Fractions 1

- a) 3 b) 6 c) 12 d) 25 e) 2 f) 6 g) 10
 h) 22 i) 4 j) 8 k) 16 l) 25 m) 1 n) 6
 o) 17 p) 40 q) 2 r) 8 s) 10 t) 15 u) 7
 v) 12 w) 20 x) 29

29. Calculating Fractions 2

- a) 4 b) 6 c) 20 d) 60 e) 6 f) 9 g) 30 h) 75
 i) 6 j) 18 k) 42 l) 80 m) 5 n) 25 o) 50
 p) 75 q) 3 r) 15 s) 35 t) 56 u) 6 v) 35
 w) 70 x) 135

30. Calculating Fractions 3

- 1) a) 8.4cm b) 5.5 litres c) 26.25kg d) 14.4m
 e) 13.5m f) 13 litres g) 39cm h) 18.75km
 i) 17.5m j) 24.5 litres k) 52.5kg l) 46.25 litres
 2) 25 3) 56 4) £1.20 and 60p

31. Calculating Fractions 4

- 1) 24 2) 36 3) 13 and 26 4) a) $\frac{5}{8}$ b) 770
 5) a) $\frac{3}{10}$ b) $\frac{7}{10}$ c) 255 6) 221

32. Calculating Fractions 5

- 1) 66.3m 2) 2.75m 3) 18.75m 4) 10.5kg
 5) 18.2kg 6) 101.01kg 7) 57.75m 8) 7m 9) 1.05m
 10) 3.5litres 11) a) $\frac{3}{5}$ b) 240 12) 180
 13) 22,500 and 37,500

Approximations 1

1) These numbers are rounded to the nearest 10.

Finish off the list.

63 rounded to the nearest 10 is 60

79 rounded to the nearest 10 is 80

264 rounded to the nearest 10 is 260

465 rounded to the nearest 10 is 470 (round up - be careful)

72 rounded to the nearest 10 is

476 rounded to the nearest 10 is

753

745 (be careful)

532

2) These numbers are to be rounded off to the nearest 100.

Finish off the list.

764 rounded to the nearest 100 is 800

86 rounded to the nearest 100 is 100

325 rounded to the nearest 100 is 300

750 rounded to the nearest 100 is 800 (round up - be careful)

364 rounded to the nearest 100 is

718 rounded to the nearest 100 is

487

638

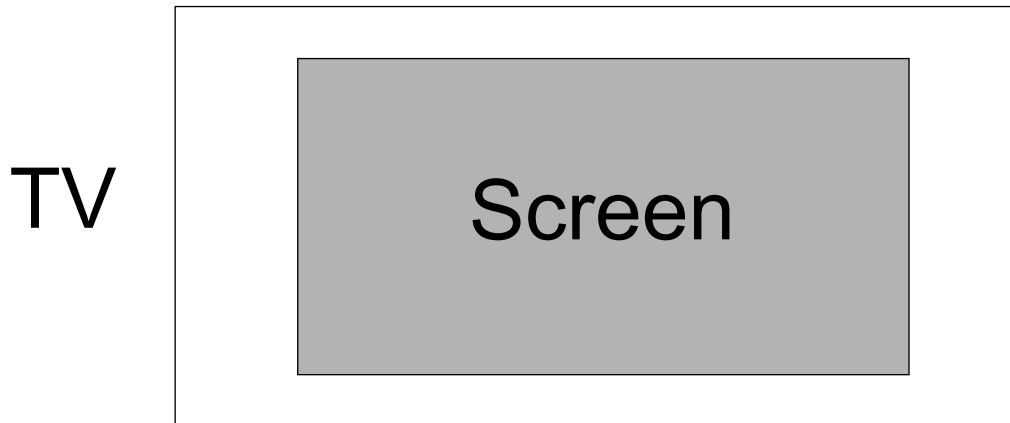
974

450 (be careful)

Percentages 3

1) The diagram shows a sketch of the front of a TV.

The screen has been shaded in.



- a) Approximately what percentage of the TV is screen?
- b) Approximately what percentage of the TV is not screen?
- 2) There were approximately 600 spectators at the school's football final.
Approximately 460 supported the home side.
The rest supported the away side.
Approximately:-
- a) What percentage of the spectators supported the home side?
- b) What percentage supported the away side?
- 3) At a concert there are 700 people. 300 are male and the rest are female.
Which of these statements is correct?
- a) Between 25% and 50% are females.
- b) Between 50% and 75% are females.

17. Percentages Answers

1. Percentages 1

- 1) 25% and 75% 2) 10% and 80% 3) 40% and 95%
4) a) 35% b) 15% c) 45% d) 60% e) 70%
f) 95%

2. Percentages 2

- 1) a) 35% b) 45% c) 15% d) 45% e) 30%
f) 30% g) 50% h) 60% i) 60%
2) a) 10% b) 90% 3) a) 40% b) 60%

3. Percentages 3

- 1) a) 60% b) 40% 2) a) 75% b) 25% 3) a) no
b) yes

4. Calculating Percentages 1

- 1) a) £2.00 b) £1.00 c) £3.00 d) £4.50 e) £2.25
f) £6.75 g) £4.20 h) £2.10 i) £6.30 j) 90p
k) £9.15 l) £1.80 m) £5.20, £2.60, £1.30
2) a) 60p b) 30p c) 90p d) 84p e) 75p f) £1.80
g) £1.12 h) £2.88 i) £6.65 j) £2.86 k) £7.22
l) £2.61 m) 88p, 44p, 22p

5. Calculating Percentages 2

- 1) a) 6 b) 66 c) 102 d) 12 e) 63 f) 98 g) 105
h) 171 i) £7.92 j) £7.02 k) £9.01 £13.76
m) £4, £2, £26 2) a) £7.92 b) 7.4kg
c) 10.08 litres d) 21.09m e) 22.26kg f) 29.88 litres
g) 59.472m h) 13.008kg i) 15.33 litres

6. Calculating Percentages 3

- 1) a) 44 b) 36 2) 100 3) increase of 100% means
it is twice as big. Increase of 200% means it is 3 times
as big etc. so Shannon is correct. 4) a) £82.50
b) £467.50 5) £414 £289.80

7. Calculating Percentages 4

- 1) a) £1.40 b) 14p c) £1.82 2) £150 3) a) £2.50
b) 83% c) £207.50 4) a) 60p b) 120% c) £72
5) 1500

Mixing 2

1) Blue and yellow paint is mixed to make green.

Jack mixes 2 tins of yellow with 3 tins of blue.

Emma mixes 3 tins of yellow with 2 tins of blue.

Molly mixes 3 tins of yellow with 3 tins of blue.

- a) Whose mixture gives the bluest shade?
- b) Whose mixture gives the yellowest shade?
- c) Emma and Molly put their mixtures together.

Jack says to Emma "My mixture is bluer than yours"

Is he correct?

2) The instructions on a squash bottle say "Dilute 1 part of squash to 5 parts of water"

- a) The bottle holds 1 litre of squash. If it is all diluted according to the instructions, how much water is needed?
- b) Jasmine says "I like mine strong so I will mix 1 part of squash with 3 parts of water"

Reece says "I like mine strong so I will mix 1 part of squash with 8 parts of water"

Who is right? Can you say why?

- c) If they drink it stronger than the instructions say, will the bottle empty faster or slower?

Estimating 2

Do not use a calculator

1) Round each of these to the nearest 10.

a) 36

b) 52

c) 33

d) 78

e) 91

f) 36

g) 22

h) 74

i) 63

j) 99

k) 38

l) 35

2) 47×33

To estimate do this:-

First round off to the nearest 10, like this:-

$$50 \times 30$$

Next multiply them together in your head:-

$$50 \times 30 = 1500$$

Now estimate these.

a) 13×29

b) 21×43

c) 28×32

d) 41×21

e) 42×39

f) 62×39

g) 48×56

h) 72×53

20 Checking and Estimating Answers

1. Estimating 1

- 1) a) 200 b) 300 c) 1200 d) 3500 e) 1800
f) 4000 2) a) 60,000 b) 120,000 c) 80,000
d) 100,000 e) 120,000 f) 250,000 g) 24,000
h) 24,000 i) 48,000 j) 25,000 k) 28,000 l) 45,000

2. Estimating 2

- 1) a) 40 b) 50 c) 30 d) 80 e) 90 f) 40 g) 20
h) 70 i) 60 j) 100 k) 40 l) 40
2) a) 300 b) 800 c) 900 d) 800 e) 1600 f) 2400
g) 3000 h) 3500

3. Checking 1

- 1) a) 4000 b) 14,000 c) 18,000 d) 27,000
e) 36,000 f) 18,000 2) a) 150,000 b) 30,000
c) 250,000 d) 60,000 e) 200,000 f) 160,000
3) b), c), e) and f)

4. Checking 2

- 1) a) 15 b) 50 c) 100 d) 150 e) 60 f) 70
g) 150 h) 60 i) 150 2) a) 30 b) 30 c) 60
d) 20 e) 20 f) 10 g) 40 h) 30 i) 20 3) a, c and e

Mental Arithmetic 1

Do not use a calculator

1) Yasmin adds together 16 and 22 in her head.

She does it like this:-

$$\begin{aligned}16 + 22 &= 10 + 6 + 20 + 2 \\ &= 10 + 20 + 6 + 2 \\ &= 30 + 8 \\ &= 38\end{aligned}$$

Write down how she would add together 16 and 33.

Write down how she would add together 34 and 45.

2) Write down how Yasmin would do these.

a) $22 + 17$

b) $31 + 47$

c) $23 + 35$

d) $41 + 29$

e) $37 + 53$

f) $66 + 45$

3) Liam adds together 16 and 22.

He does it like this:-

$$16 + 2 = 18$$

$$18 + 20 = 38$$

Write down how he would add together 16 and 25.

Write down how he would add together 42 and 53.

4) Write down how Liam would do these.

a) $37 + 18$

b) $47 + 22$

c) $53 + 27$

d) $46 + 29$

e) $65 + 54$

f) $55 + 38$

23. Inverse Operations Answers

Inverse Operations 1

1) b, e, f, i 2) c, d, g, h, l

Inverse Operations 2

1) a, e, g, k, l 2) $199 - 76$ or $199 - 123$
3) $1728 \div 54$ or $1728 \div 32$ 4) $2.7 + 0.7 = 3.4$
5) $0.37 \times 7 = 2.59$ 6) $6.1 \times 31 = 201.50$

Fractions, Decimals and Percentages 2

1) Change the following fractions into decimals.

a) $\frac{1}{10}$

b) $\frac{3}{10}$

c) $\frac{7}{10}$

d) $\frac{9}{10}$

e) $\frac{1}{2}$

f) $\frac{1}{4}$

g) $\frac{3}{4}$

h) $\frac{1}{8}$

i) $\frac{1}{20}$

j) $\frac{7}{20}$

k) $\frac{1}{25}$

l) $\frac{1}{5}$

2) Change each of these fractions into (i) decimals and (ii) percentages.

a) $\frac{1}{100}$

b) $\frac{3}{100}$

c) $\frac{7}{100}$

d) $\frac{19}{100}$

e) $\frac{3}{20}$

f) $\frac{9}{20}$

g) $\frac{4}{25}$

h) $\frac{7}{25}$

i) $\frac{21}{25}$

j) $\frac{3}{5}$

k) $\frac{4}{5}$

l) $\frac{2}{5}$

24 Fractions, Decimals and Percentages Answers

Fractions, Decimals and Percentages 1

1) a) $\frac{1}{2}$ b) $\frac{1}{10}$ c) $\frac{7}{10}$ d) $\frac{3}{5}$ e) $\frac{1}{4}$ f) $\frac{3}{4}$ g) $\frac{2}{5}$

h) $\frac{1}{100}$ i) $\frac{1}{20}$ j) $\frac{7}{20}$ k) $\frac{7}{25}$ i) $\frac{14}{25}$

2) a) 60% b) 70% c) 90% d) 20% e) 16%
f) 32% g) 64% h) 6% i) 23.5% j) 14.3%
k) 5.3% l) 20%

3) a) $\frac{1}{5}$ b) $\frac{2}{5}$ c) $\frac{1}{2}$ d) $\frac{9}{10}$ e) $\frac{1}{4}$ f) $\frac{3}{4}$ g) $\frac{7}{20}$

h) $\frac{17}{20}$ i) $\frac{31}{50}$ j) $\frac{12}{25}$ k) $\frac{71}{100}$ l) $\frac{23}{25}$

Fractions, Decimals and Percentages 2

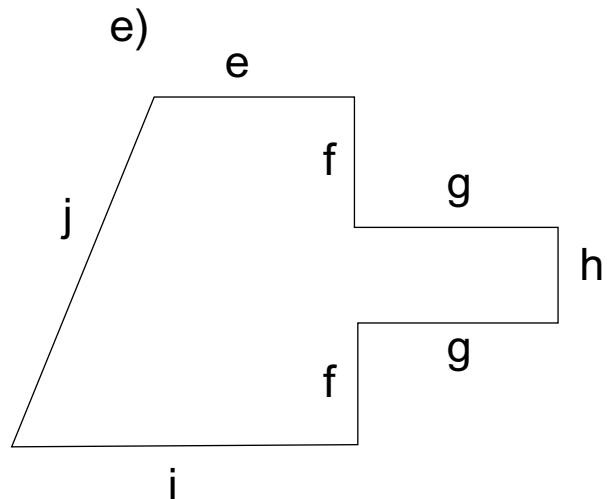
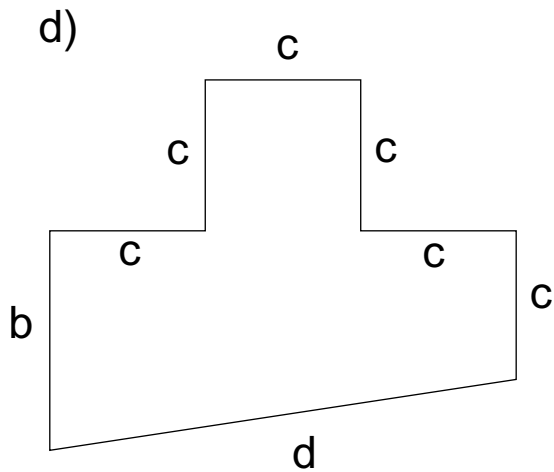
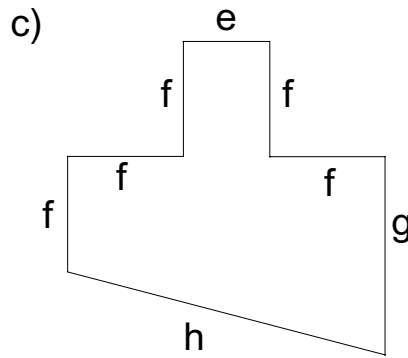
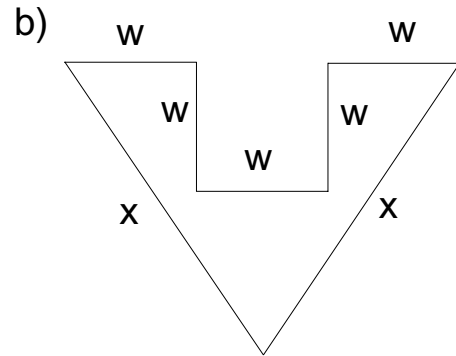
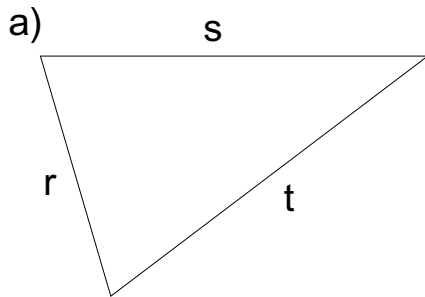
1) a) 0.1 b) 0.3 c) 0.7 d) 0.9 e) 0.5 f) 0.25
g) 0.75 h) 0.125 i) 0.05 j) 0.35 k) 0.04 l) 0.2

2) a) 0.01, 1% b) 0.03, 3% c) 0.07, 7%
d) 0.19, 19% e) 0.15, 15% f) 0.45, 45%

g) 0.16, 16% h) 0.28, 28% i) 0.84, 84%
j) 0.6, 60% k) 0.8, 80% l) 0.4, 40%

Adding Letters 3

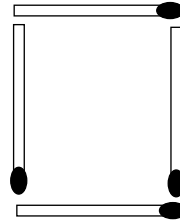
For each diagram write down an expression for its perimeter



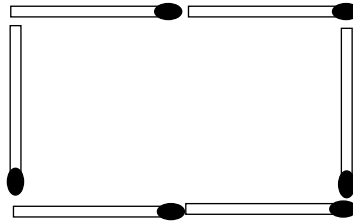
Patterns 8

The diagram shows patterns made from matchsticks.

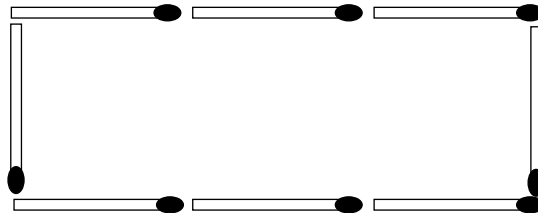
Pattern 1



Pattern 2



Pattern 3

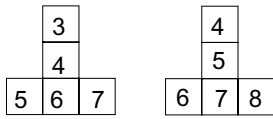


- How many more matchsticks are added each time?
- How many matchsticks will be in pattern 4?
- How many matchsticks will be in pattern 5?
- How many matchsticks will be in pattern 6?
- How many matchsticks will be in pattern 10?
- Say in words how you calculate the number of matchsticks in a pattern.

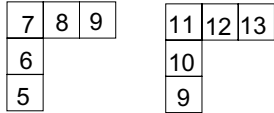
26. Rules and Patterns Answers

1. Rules 1

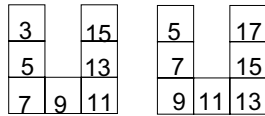
1)



2)

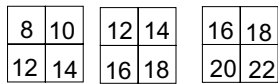


3)

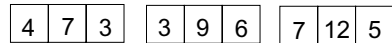


2. Rules 2

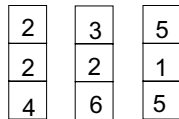
1)



2)

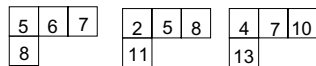


3)

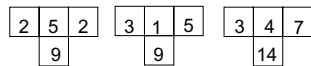


3. Rules 3

1)



2)

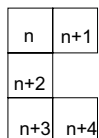


3)

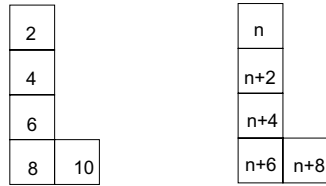


4. Rules 4

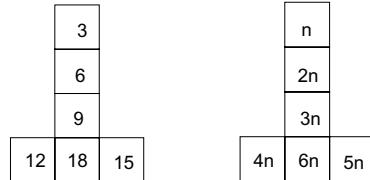
a)



b)

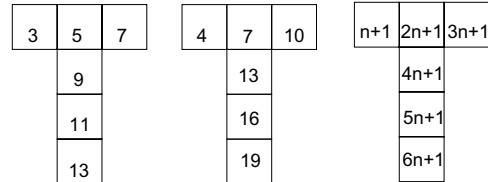


c)

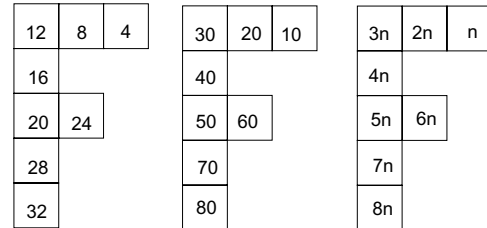


5. Rules 5

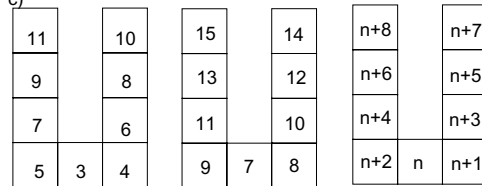
a)



b)



c)



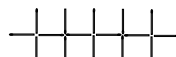
6. Patterns 1

a) 2 white tiles b) 2 black tiles c) 2 white tiles

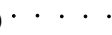
d) 9 e)  f) 11 g) 13

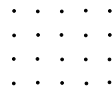
7. Patterns 2

a) 3 matchsticks b) 3 matchsticks c) 3 matchsticks

d) 16 e)  f) 19 g) 22

8. Patterns 3

a)  b) 25 c) 16 d) 9 e) 36



9. Patterns 4

Other triangular numbers are 15, 21, 28 etc

- a) 3 (or 1) b) no c) no d) yes

10. Patterns 5

- a) no b) yes c) yes d) a multiple of 3

11. Patterns 6

- a) 3 b) 12 c) 30 d) multiply pattern number by 3

12. Patterns 7

- a) 25 b) 36 c) 49 d) 100 e) 400 f) square the pattern number

13. Patterns 8

- a) 2 b) 10 c) 12 d) 14 e) 22 f) double the pattern number then add 2

14. Patterns 9

- a) 21 b) multiply the number of patterns by 3
c) $m = 3t$ d) 45 matchsticks

15. Patterns 10

- a) 15 b) multiply by 2 then add 1 c) $m = 2t + 1$ d) 31

16. Patterns 11

- a) 7 b) 12 c) subtract 2 from the number of buttons.
d) $t = b - 2$ e) 18

17. Patterns 12

- a) 5 b) 16 c) subtract 2 then divide by 2
d) $s = \frac{1}{2}(b - 2)$ e) 29

18. Patterns 13

- a) 13 b) 31 c) multiply the number of squares by 3 then add 1 d) $m = 3s + 1$ e) 103
f) 24 with 2 left over

19. Patterns 14

- a) 12 b) 27 c) subtract 1 then multiply by 3
d) $r = 3(p - 1)$ e) 72 f) 23

20. Number Machines 1

- 1) a) 7 b) 11 c) 15 2) a) 7 b) 6 c) 2 d) 12
e) 5 f) 5

21. Number Machines 2

- 1) a) 15 b) 42 c) 60 2) a) 9 b) 19 c) 33
3) a) 12 b) 16 c) 20 4) a) 11 b) 13 c) 21
5) a) 6 b) 10 c) 16

22. Magic Squares 1

14	9	16
15	13	11
10	17	12

13	18	11
12	14	16
17	10	15

4	3	8
9	5	1
2	7	6

16	11	18
17	15	13
12	19	14

23. Magic Squares 2

8	3	4
1	5	9
6	7	2

7	10	1
0	6	12
11	2	5

13	8	15
14	12	10
9	16	11

24. Magic Squares 3

13	8	9
6	10	14
11	12	7

9	4	5
2	6	10
7	8	3

14	19	12
13	15	17
18	11	16

7	2	3
0	4	8
5	6	1

11	6	7
4	8	12
9	10	5

6	5	10
11	7	3
4	9	8

25. Number Grids 1

1st number	2nd number	3rd number	4th number	Sum of the numbers
2	3	12	13	30
24	25	34	35	118
27	28	37	38	130
32	33	42	43	150
35	36	45	46	162
19	20	29	30	98
49	50	59	60	218

26. Number Grids 2

1st number	2nd number	3rd number	4th number	Answer
4	5	15	25	-1
7	8	18	28	5
11	12	22	32	13
24	25	35	45	39
37	38	48	58	65
5	6	16	26	1
19	20	30	40	29

27. Number Grids 3

1st number	2nd number	3rd number	4th number	Answer
14	15	24	25	78
28	29	38	39	134
66	67	76	77	286
87	88	97	98	370
115	116	125	126	482
n	$n + 1$	$n + 10$	$n + 11$	$4n + 22$

28. Number Grids 4

1st number	2nd number	3rd number	4th number	Answer
22	23	24	33	102
27	28	29	38	122
61	62	63	72	258
78	79	80	89	326
96	97	98	107	398
$n - 11$	$n - 10$	$n - 9$	n	$4n - 30$

Theatre Seats

This is the plan of the seats in a theatre.

P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
K	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
J	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
I	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
H	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
G	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Front of the Theatre

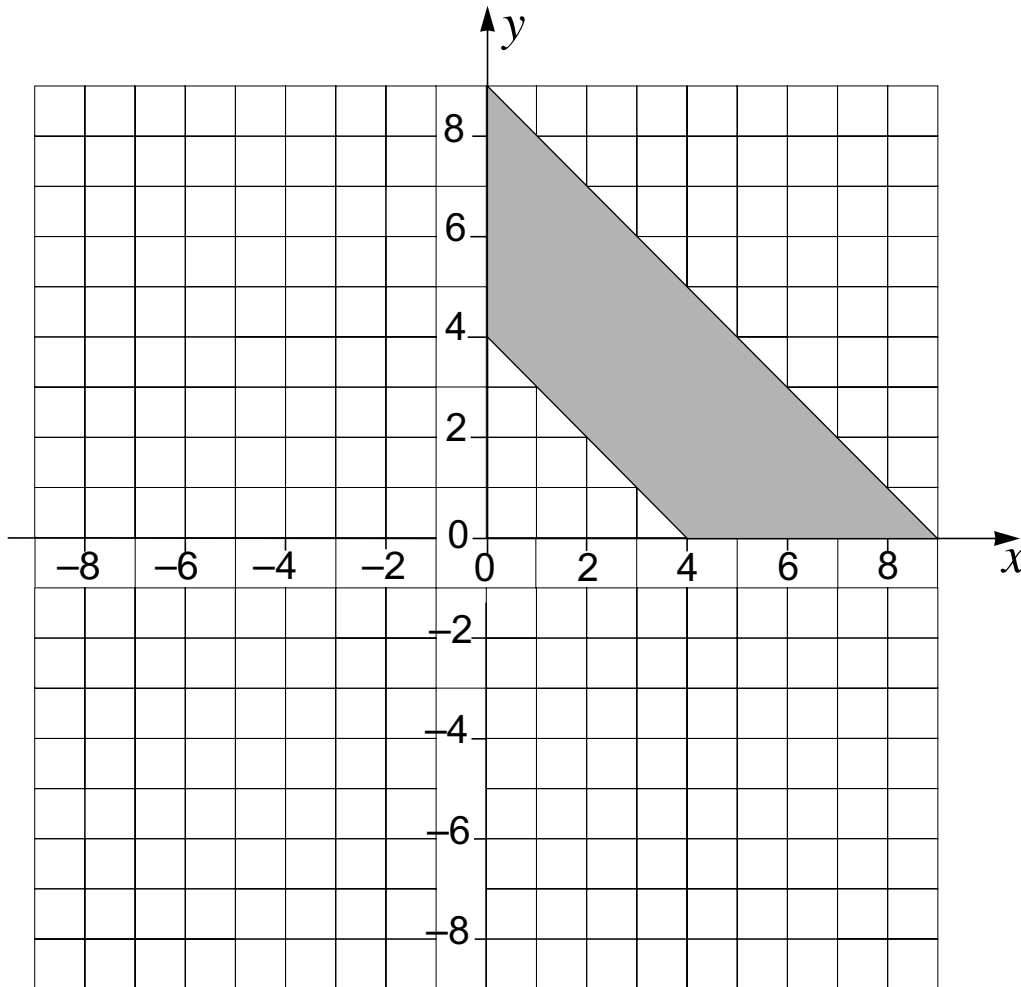
The position marked is seat 9 row K.

This seat is called 9K.

- How many rows are in the theatre?
- How many seats are in the theatre?
- Which seat is right behind 9K?
- Lauren sits in seat 14E. Her mum and dad sit either side of her.
Which seats do they sit in?
- Megan sits in seat 5E. Her three friends sit in the seats on her left.
Which seats are these?
- There are 5 rows of seats in front of Matthew. To his left there are six more seats in his row. Where is he sitting?

Negative Co-ordinates 2

- a) What is the name given to the shape in the diagram below?
- b) Draw a reflection of the shape about the x axis.



- c) Describe the shape with vertices $(0,4)$, $(4,0)$ and $(0,-4)$.
- d) Draw a reflection of the two shapes you now have about the y axis.
- e) The complete shape is made from two squares. Write down the co-ordinates of their vertices.

27. Co-ordinates Answers

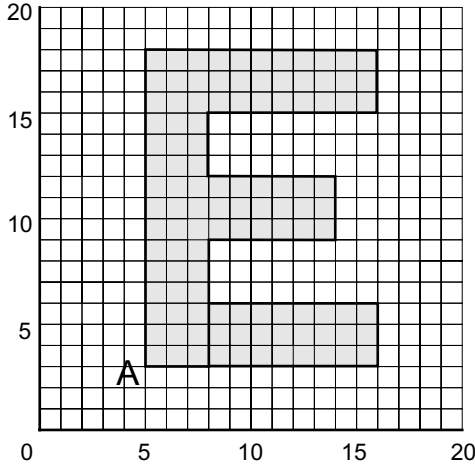
1. Theatre Seats

a) 16 b) 320 c) 9L d) 13E and 15E e) 6E, 7E and 8E f) 14F

2. Position 1

a) (8,3); (8,9); (14,9); (14,12); (8,12); (8,15); (16,15); (16,18); (5,18)

b)



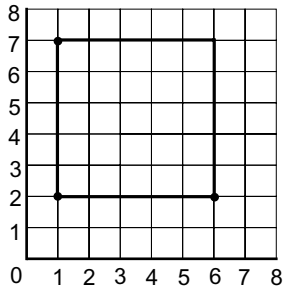
c) (16,3); (16,6); (8,6)

3. Position 2

1) (3,2); (18,2); (18,8); (12,8); (12,17); (3,17)

2) a) (1,7) (1,2) and (6,2)

b)

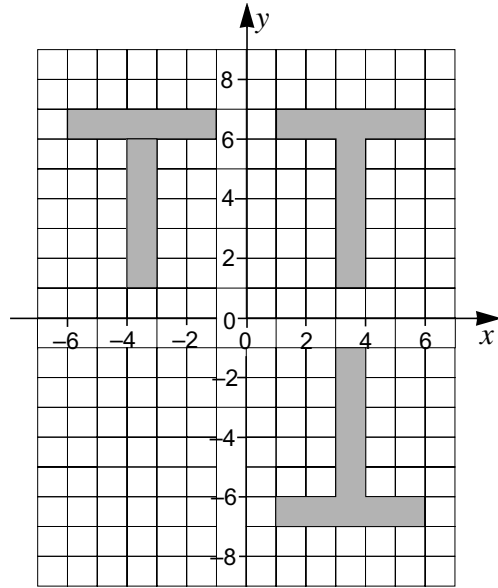


c) (6,7) d) (3.5,4.5)

4. Negative Co-ordinates 1

a) (3,1); (4,1); (4,6); (6,6); (6,7); (1,7); (1,6); (3,6)

b) and d)

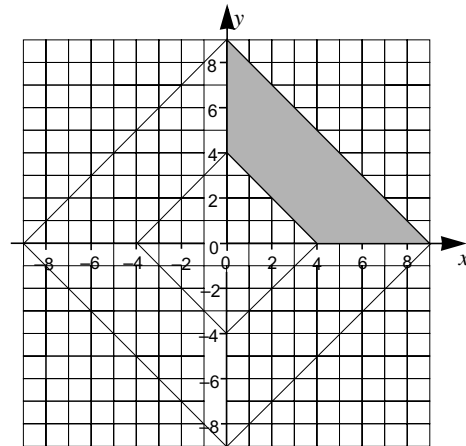


c) (-3,1); (-4,1); (-4,6); (-6,6); (-6,7); (-1,7); (-1,6) (-3,6)

e) (3,-1); (4,-1); (4,-6); (6,-6); (6,-7); (1,-7); (1,-6) (3,-6)

5. Negative Co-ordinates 2

a) trapezium b) and d)



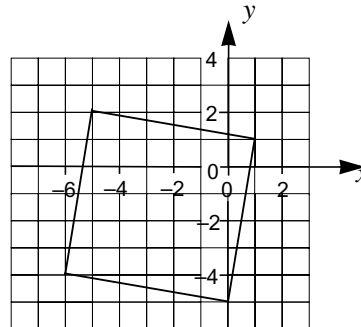
c) Isosceles triangle

e) Large one (0,9); (9,0); (0,-9) and (-9,0)

Small one (0,4); (4,0); (0,-4) and (-4,0)

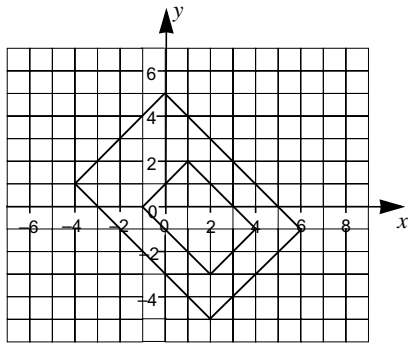
6. Negative Co-ordinates 3

1) a)

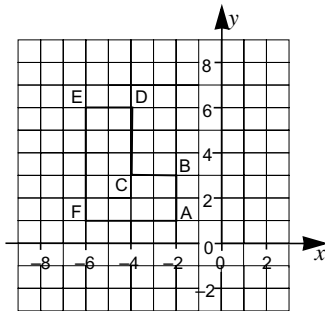


b) (-6,-4)

2) a)



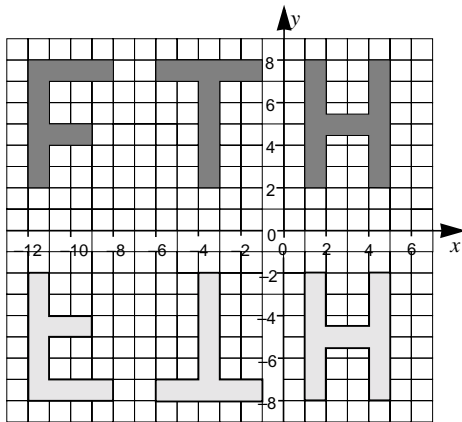
b) (2,-5) c) (1,0) d) (4,-1) and (2,-3) e) 4
3) a) and b)



c) L

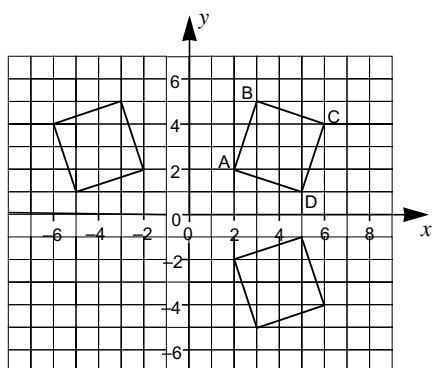
7. Negative Co-ordinates 4

1) a)



b) (-3,-2) (-3,-7) (-1,-7) (-1,-8) (-6,-8) (-6,-7)
(-4,-7) (-4,-2)

2) a) b) and c)

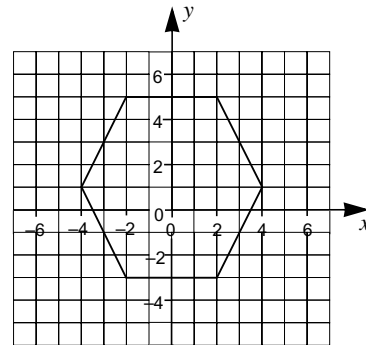


b) (-2,2) (-3,5) (-6,4) (-5,1)

c) (2,-2) (3,-5) (6,-4) (5,-1)

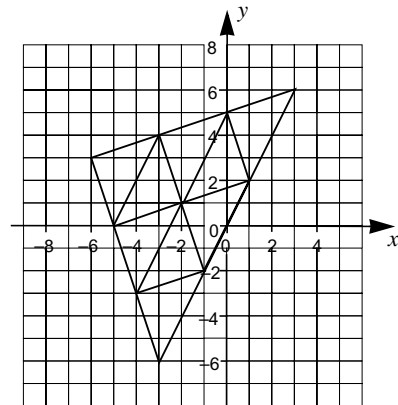
8. Negative Co-ordinates 5

1) a)



b) Hexagon

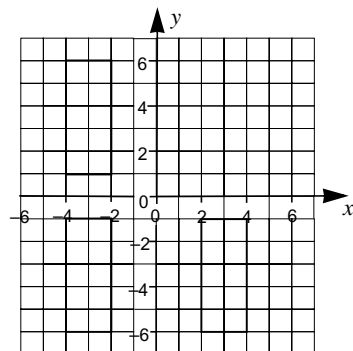
2) a), c) and e)



b) (3,6) and (-3,-6)

d) 9

3) a) b) and c)



c) Rectangle

d) (-2,1) (-4,1) (-4,6) (-2,6)

e) (2,-1) (4,-1) (4,-6) (2,-6)

28. Angles Answers

Angles 1

1) c 2) g 3) g and h 4) a, c, d and f 5) e

Angles 2

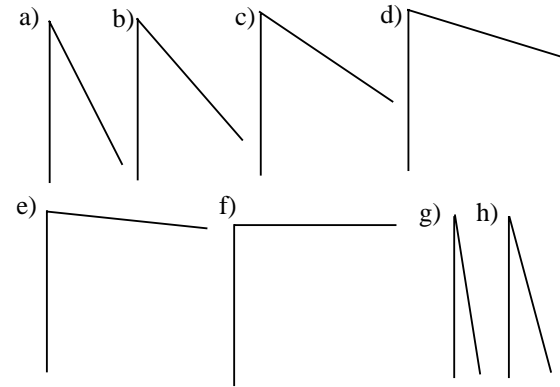
1) a and b
2) B, E, G, D, A, F, H, C

Angles 3

1) A - right B - acute C - right D - acute E - acute
F - acute G - obtuse H - obtuse I - right
2) A, B, C and D are right. E and G are obtuse.
H, F, I, J and K are acute.

Angles 4

1) A - 61° B - 34° C - 17° D - 67° E - 36° F - 32°
g - 64°
2)

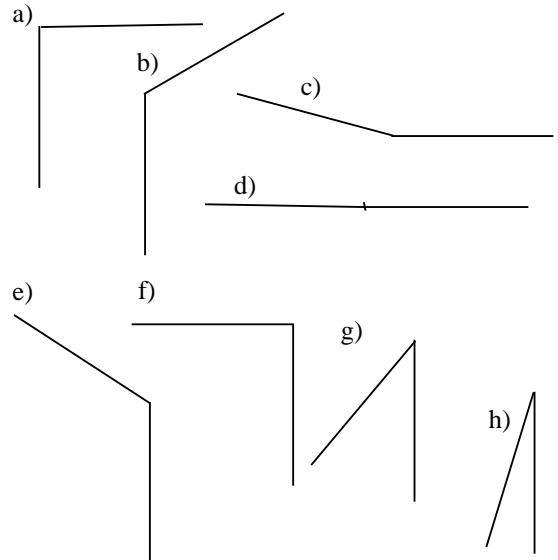


Angles 5

A - 72° B - 150° C - 45° D - 113° E - 21°
F - 36° G - 275° H - 305° I - 331°

Angles 6

1) A - 95° B - 265° C - 130° D - 116° E - 314°
F - 248° 2)

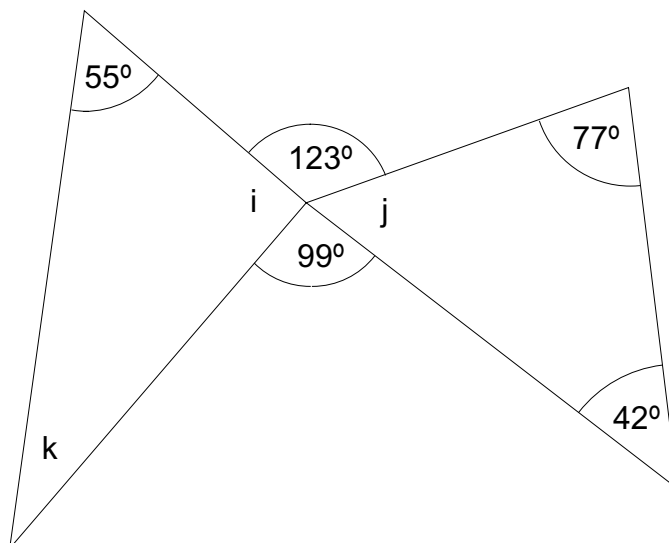
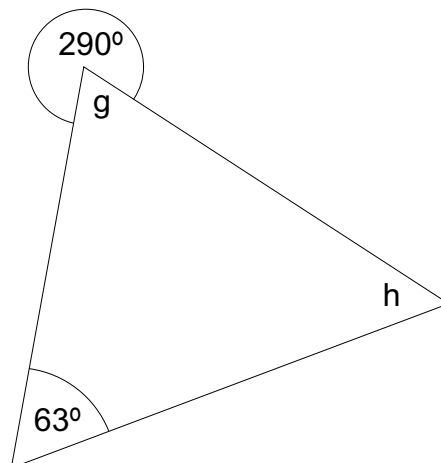
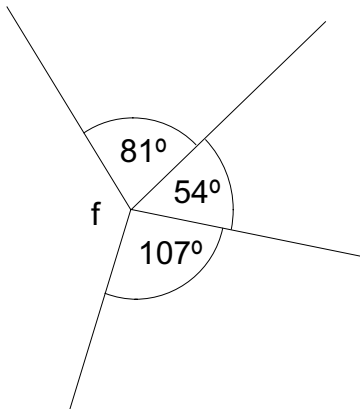
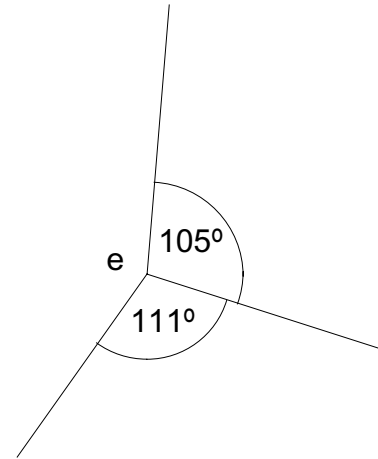
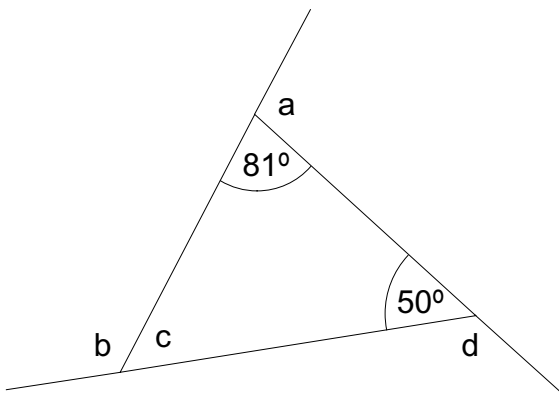


Angles 7

These are smaller a, c, j, k, l, y and z
These are right angles b, m, n, o, p, q, s, t, u, v and x
These are bigger d, e, f, g, h, i, r and w

Angles at a Point 2

Calculate the sizes of the angles a to k below.



29. Angles at a Point Answers

Angles at a Point 1

a - 108° b - 93° c - 63° d - 117° e - 117°
f - 126° g - 118° h - 95°

Angles at a Point 2

a - 99° b - 131° c - 49° d - 130° e - 144°
f - 118 g - 70° h - 47° i - 77° j - 61° k - 48°

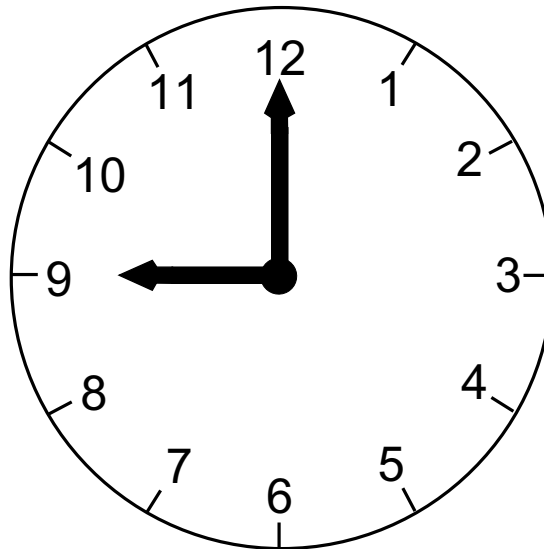
Angles at a Point 3

a - 40° b - 48° c - 139° d - 62° e - 77° f - 103°
g - 86° h - 32° i - 148° j - 149° k - 31° l - 68°
m - 143°

Angles on a Clock 2

The diagram shows a clock.

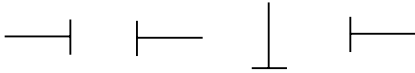
The hands are pointing to 9 o'clock.



- What is the angle between the hands when the clock reads 9 o'clock?
- What is the angle between the hands when the clock reads 11 o'clock?
- What is the angle between the hands when the clock reads 10 o'clock?
- The time changes from 10 o'clock to 11 o'clock.
How many degrees does the hour hand (small hand) travel through?
- What is the size of the angle between the hands at 8 o'clock?
- What is the size of the angle between the hands at 7 o'clock?
- How many degrees does the minute hand travel through between 9:15 and 9:30?
- How many degrees does the minute hand travel through between 9:15 and 9:50?
- How long does it take for the minute hand to travel 180° ?
- How long does it take for the minute hand to travel 360° ?
- The time is 3:35. What will be the time when the big hand has moved on 90° ?

30 Turning Answers

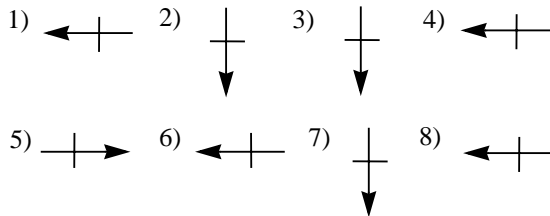
1. Turning 1



2. Turning 2

- a) $\frac{1}{4}$ turn anticlockwise or $\frac{3}{4}$ turn clockwise
 b) $\frac{1}{2}$ turn clockwise or anticlockwise
 c) $\frac{1}{8}$ turn clockwise
 d) $\frac{1}{8}$ turn anticlockwise
 e) $\frac{3}{8}$ turn clockwise or $\frac{5}{8}$ turn anticlockwise
 f) $\frac{3}{8}$ turn anticlockwise or $\frac{5}{8}$ turn clockwise

3. Turning 3



4. Turning 4

- a)
 1 → 4 → 3 → 2 → 1 → 4
 b) $\frac{1}{4}$ turn anticlockwise or $\frac{3}{4}$ turn clockwise
 c)
 1 → 2 → 3 → 4 → 1
 d)
 3 → 4 → 1 → 2 → 3

5. Angles on a Clock 1

- a) 60° b) 90° c) 120° d) 60° e) 180° f) 210°
 g) 120° h) 90° i) 5 minutes j) 15 minutes

6. Angles on a Clock 2

- a) 90° b) 30° c) 60° d) 30° e) 120° f) 150°
 g) 90° h) 210° i) 30 minutes j) 1 hour k) 3:50

7. Compass Points 1

- a) 90° b) 90° c) 90° d) 180° e) 180° f) 90°
 g) 270° h) 270°

8. Compass Points 2

- a) South East, South West and North West
 b) 45° c) 90° d) 90° e) 135° f) 45° g) 45°
 h) 90°

9. Turning Patterns

- 1) a) 1 - 3 - 5 - 2 - 4 - 1 - 3 - 5
 b) 1 - 4 - 2 - 5 - 3 - 1 - 4 c) $\frac{4}{5}$ turn clockwise or $\frac{1}{5}$ turn anticlockwise
 2) a) 1 - 6 - 5 - 4 - 3 - 2 - 1 - 6 - 5 b) 1 - 5 - 3 - 1 - 5
 c) $\frac{1}{2}$ turn

31 Triangles Answers

Triangles 1

a) 81° b) 61° c) 57° d) 74° e) 52° f) 69°

Triangles 2

a) 39° b) 121° c) 39° d) 27° e) 63° f) 39°

Triangles 3

a) 40° b) 50° c) 80° d) 106° e) 51°

Reflection 1

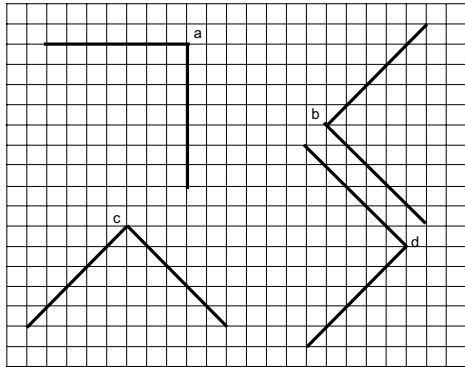
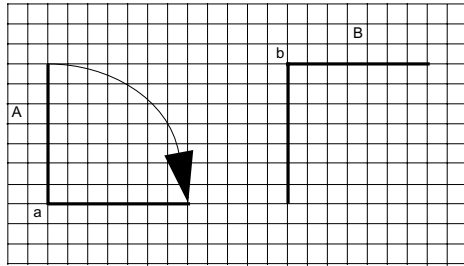
Draw the reflections of these shapes.

The first has been done.

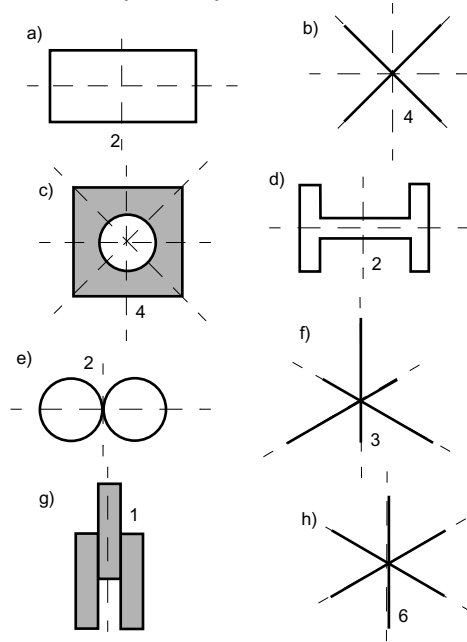
The grid consists of 12 columns and 10 rows of dots. A vertical dashed line is drawn between the 4th and 5th columns. The first row contains three shapes: a rectangle with a dashed reflection to its right, a right-angled triangle with a dashed reflection to its right, and a trapezoid with a dashed reflection to its right. The second row contains a trapezoid with a dashed reflection to its right and a rectangle with a dashed reflection to its right. The third row contains a stepped L-shape with a dashed reflection to its right and a concave pentagon with a dashed reflection to its right.

34 Rotation Answers

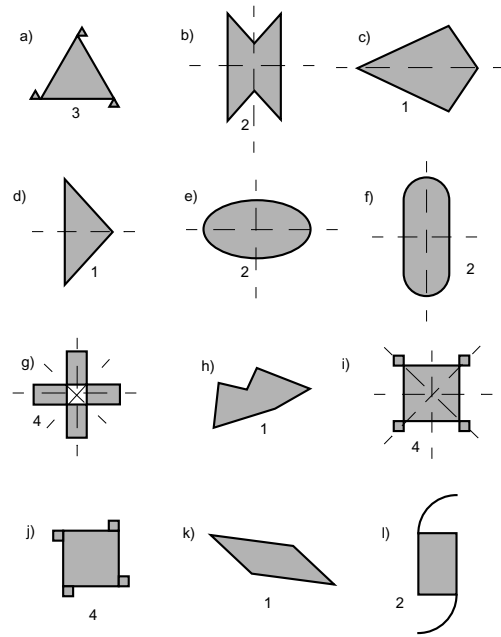
1. Rotation



2. Rotational Symmetry 1



3. Rotational Symmetry 2

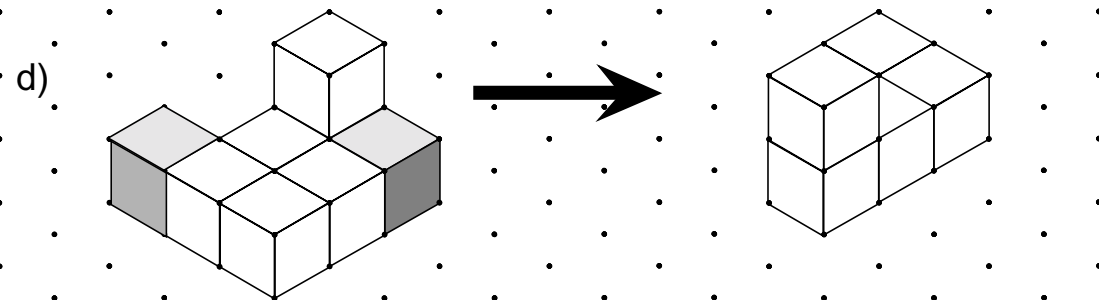
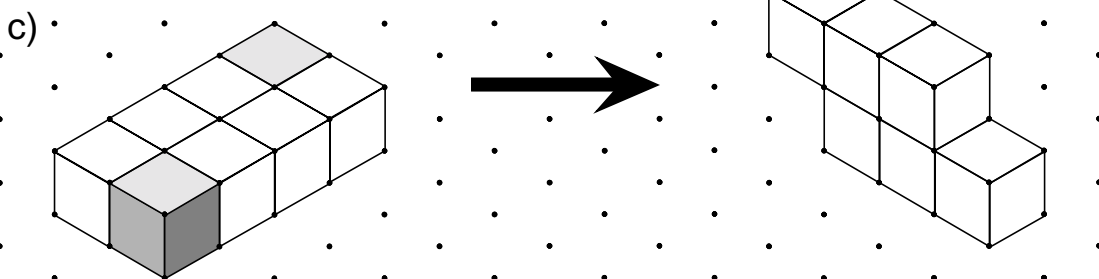
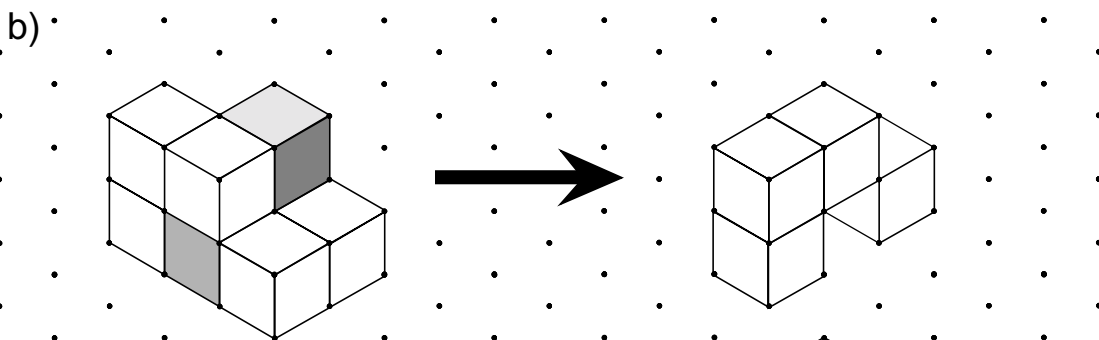
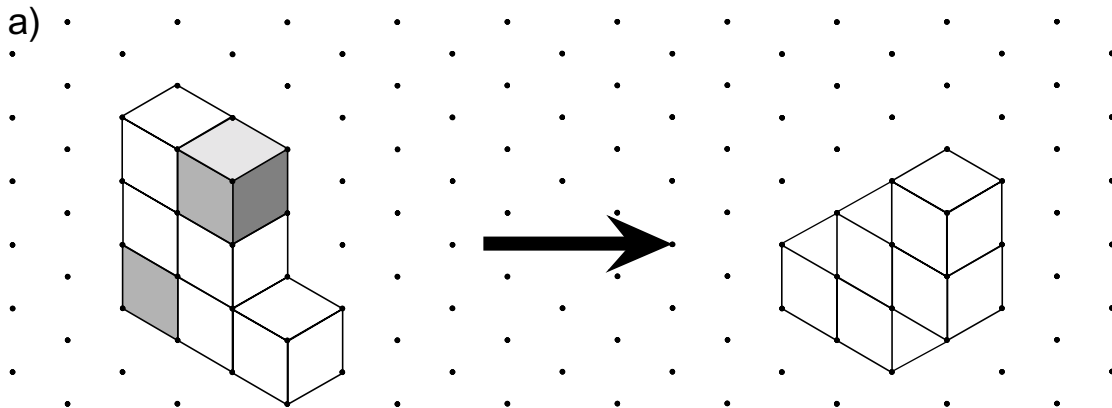


Missing Blocks 3

In each of the pairs of diagrams below, both shapes are the same but viewed from different directions.

The right hand view has two dark blocks missing.

Put in the missing dark blocks.



38. Volumes Answers

1. Volume of a Cuboid

a) 12 b) 24 c) 24 d) 48 e) 32 f) 48 g) 48

2. Volume of a Shape

a) 12 b) 24 c) 22 d) 24 e) 36 f) 44

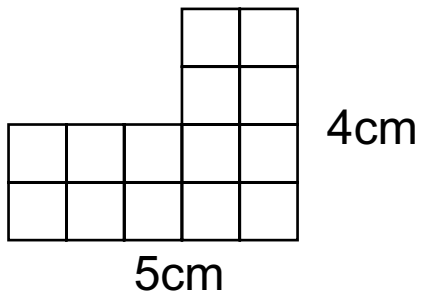
3. Packing Boxes

1) a) 20 b) 100 2) 45 3) 150

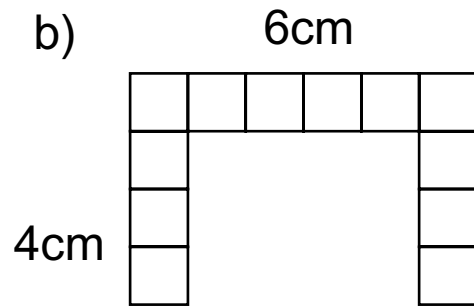
Area 2

Count the squares to find the area of these.

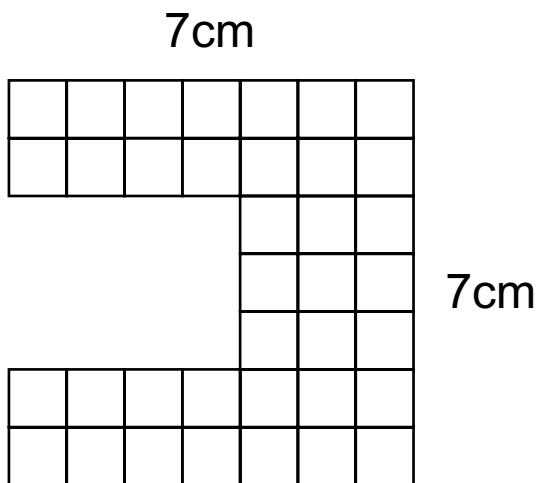
a)



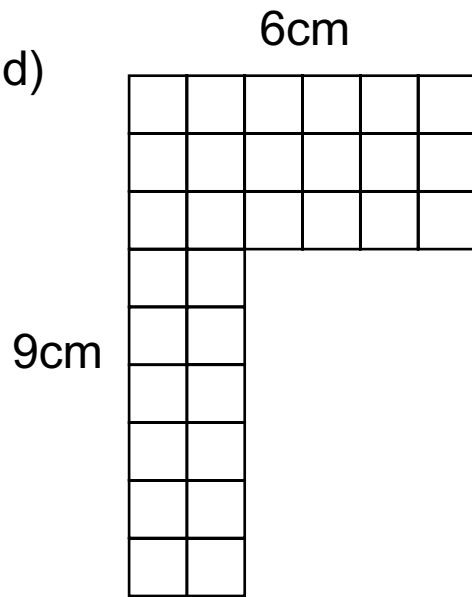
b)



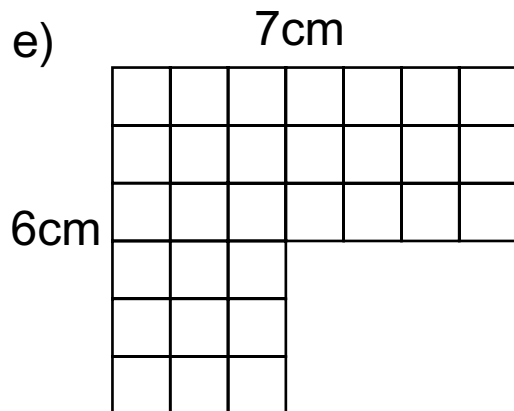
c)



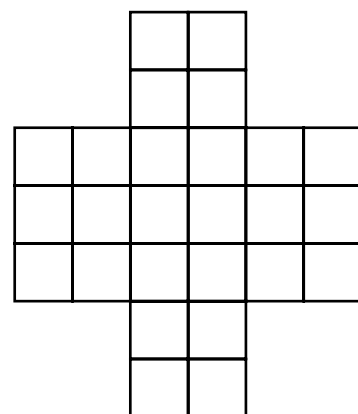
d)



e)



f)



39. Areas and Perimeters Answers

1. Area 1

- 1) a) 12 square centimetres b) 20 square centimetres
c) 21 square centimetres d) 36 square centimetres
e) 54 square centimetres f) 24 square centimetres
g) 49 square centimetres

2. Area 2

- a) 14 square centimetres b) 12 square centimetres
c) 37 square centimetres d) 30 square centimetres
e) 30 square centimetres f) 26 square centimetres

3. Area 3

Answers are approximate

- 1) a) 23 squares b) 15 squares 2) a) 10 squares
b) 12 squares c) 45 squares

4. Equal Areas 1

1 and b; 3 and e; 4 and a; 5 and c; 6 and f

5. Equal Areas 2

1 and g; 2 and c; 3 and e; 4 and a; 5 and b; 6 and d

6. Paving Stones 1

- 1) 70 2) 32 3) 24

7. Paving Stones 2

- 1) 156 2) 351

8. Area and Perimeter 1

- a) 35cm^2 and 24cm b) 104cm^2 and 42cm
c) 40cm^2 and 34cm d) 51cm^2 and 40cm
e) 103.5cm^2 and 41cm f) 60cm^2 and 64cm
g) 115cm^2 and 56cm

9. Area and Perimeter 2

- a) 96cm^2 40cm b) 52cm^2 34cm c) 66cm^2 40cm
d) 135cm^2 49cm e) 101cm^2 44cm
f) 110cm^2 60cm

10. Area and Perimeter 3

- 1) a) 20,774 square metres b) 2.0774 hectares
2) a) 140 b) 4 3) a) 21cm by 29.7cm
b) 623.7 square centimetres
c) 311,850 square centimetres
d) 31.185 square metres e) 2.4948kg
4) a) 80 square metres b) 160 square metres
c) 8 litres

11. Areas of Triangles 1

- a) 6 square centimetres b) 6 square centimetres
c) 7.5 square centimetres d) 6.5 square centimetres

12. Areas of Triangles 2

- a) 5 square centimetres b) 6 square centimetres
c) 6 square centimetres d) 5 square centimetres
e) 9 square centimetres

13. Areas of Triangles 3

- 1) a) 96 square centimetres b) Half of 16 times 12 or
8 times 12 or 16 times 6 etc
2) Half of the rectangle or half the base multiplied by
the height or half the height multiplied by the base.
3) a) Same size and shape b) 180 square centimetres

Measurements 3

1) Which of the alternatives is true?

- a) The distance from Bristol to Newcastle is 460 metres or 460 kilometres.
- b) The height of a tree is 15 metres or 15 centimetres.
- c) The weight of an orange is 500 gram or 500 kilogram.
- d) A bottle of milk holds 1 litre or 1 millilitre.
- e) The weight of a cat is 5 grams or 5 kilograms.
- f) A bag of potatoes weighs 10kg or 10g.
- g) My height is 150mm, 150cm or 150m
- h) The length of a pen is 15m, 15cm or 15mm
- i) The height of a door is 2cm, 2m or 2km

2) What measurement would you use to measure each of these?

- a) The distance from London to Edinburgh.
- b) The capacity of a large bottle.
- c) The width of a window.
- d) The weight of a large dog.
- e) The weight of a small pack of corn flakes.
- f) The length of a football pitch.
- g) The thickness of a pen.
- h) The weight of a letter.
- i) The capacity of a yoghurt pot.

40. Measurement Answers

1. Measurements 1

- 1) centimetre, millimetre, metre, kilometre
- 2) gram, kilogram 3) litre, millilitre 4) litre
- 5) kilometre 6) millimetre 7) metre 8) kilogram
- 9) centimetre 10) gram

2. Measurements 2

- 1) a) 1 litre b) 1 kilometre c) 1 kilogram
- d) 1 centimetre e) 50 f) 25 g) 200 h) 500
- i) 250 j) 2000 2) a) 1cm and 10mm
- b) 5 litres and 5000ml e) 9kg and 9000g
- d) 20mm and 2cm e) 1g and 1000mg
- f) 70cm and 700mm g) 8 litres and 8000ml
- h) 5kg and 5000g i) 700m and 70,000cm
- 6) 6 litres and 6000ml

3. Measurements 3

- 1) a) kilometres b) 15 metres c) 500 grams
- d) 1 litre e) 5 kilograms f) 10kg g) 150cm
- h) 15cm i) 2m 2) a) kilometres b) litre
- c) centimetres d) kilograms e) grams f) metres
- g) millilitres h) grams i) millilitres

4. Metric and Imperial Measure 1

- 1) 6kg 2) 1 litre
- 3) 610km, 390km, 1320km, 550km approximately
- 4) a) 30.5cm b) 2.5cm c) 106.5cm

5. Metric and Imperial Measure 2

- 1) a) 2lbs b) 2.2lbs c) 5 litres
- 3) 74 grams
- 392 grams
- 28 grams
- 28 grams
- 7 grams
- 285ml

6. Metric and Imperial Measure 3

- 1) 1 ton is 1017kg and 1 tonne is 1000kg so 1 ton is heavier
- 2) Ryan's measurement is about 8.9cm, 1mm smaller
- 3) about 14 pints 4) a) 30.5cm
- b) 2.54cm c) 163cm 5) 5kg(11lbs)

7. Estimating Measures 1

- a) litres b) gallons c) millimetres d) minutes
- e) grams f) miles, kilometres g) kilograms
- h) centimetres i) millimetres j) millilitres
- k) tonnes (tons) l) centimetres m) hours n) metres
- o) metres

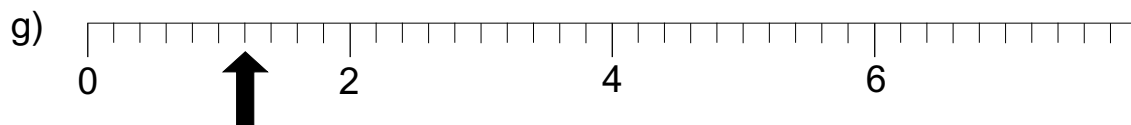
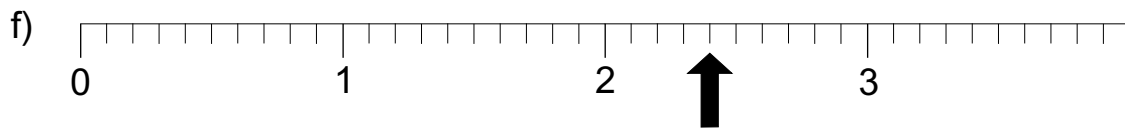
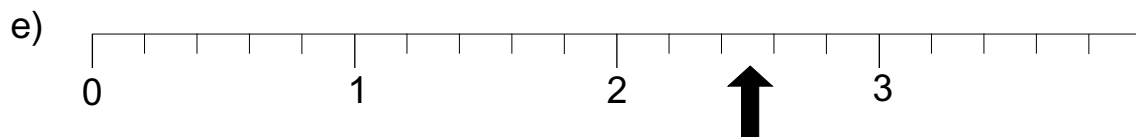
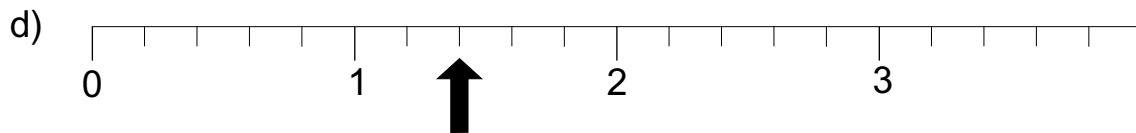
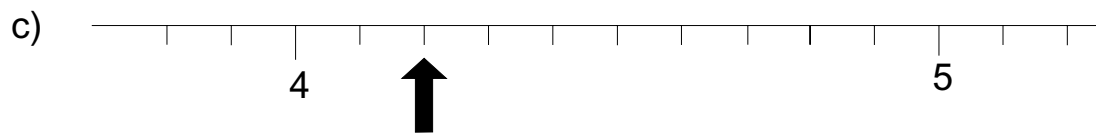
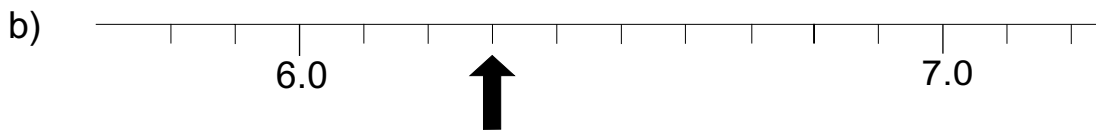
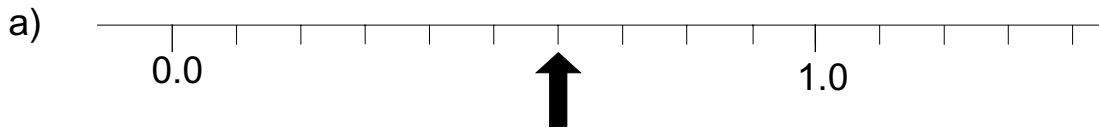
8. Estimating Measures 2

All answers are approximate. Allow a wide margin of error

- a) 7 b) 70 c) 5 d) 450 e) 1.5 f) 50 g) 3
- h) 20 miles or 30 kilometres i) 25

Reading Scales 5

What number is the arrow pointing at?



41. Measuring Answers

1. Reading Scales 1

a) 14 b) 52 c) 527 d) 6 e) 22 f) 40 g) 250

2. Reading Scales 2

a) 23 b) 55 c) 380 d) 50 e) 48 f) 12 g) 135

3. Reading Scales 3

a) 140 b) 360 c) 255 d) 30 e) 76 f) 49 g) 130

4. Reading Scales 4

a) 24.5 b) 355 c) 285 d) 58 e) 52 f) 25 g) 77.5

5. Reading Scales 5

a) 0.6 b) 6.3 c) 4.2 d) 1.4 e) 2.5 f) 2.4 g) 1.2

6. Reading Scales 6

a) 5.4 b) 65.5 c) 2.6 d) 3.5 e) 5.2 f) 1.7 g) 1.7

7. Measuring Instruments 1

a) 40kg b) 45kg c) 50kg d) 27kg e) 46 f) 37
g) 53 h) 49kg

8. Measuring Instruments 2

a) 2.25kg b) 5.5kg c) 3.5kg d) 9.1kg e) 5.6kg
f) 8.1kg g) 5.4kg

9. Measuring Instruments 3

a) 500ml b) 1200ml c) 1700ml d) 750ml e) 1.5
pints f) 3.5 pints

10. Measuring Lengths 1

Mr Patel 1.7 metres; Ella 1.52m; Lewis 1.46m;
Laura 1.38m; Hannah 1.32m; David 1.24m;
Grace 1.14m;
Ella's teddy bear 0.3m(30 centimetres);
David's soft toy 12cm

11. Measuring Lengths 2

a) 10cm b) 6cm c) 13.5cm d) 8.5cm e) 3.3cm
f) 5.1cm g) 14.7cm

12. Measuring Lengths 3

a) 7cm b) 5cm c) 9.5cm d) 11.5cm e) 7.8cm
f) 9cm g) 11.5cm

13. Measuring Lengths 4

1) a) 13.5cm b) 11.7cm c) 8.9cm 2) a) 10.4cm
b) 6.8cm

Years 2

- 1) The 50th anniversary of the end of the Second World War was celebrated in 1995.
 - a) In what year did the Second World War end?
 - b) In what year will the 75th anniversary occur?

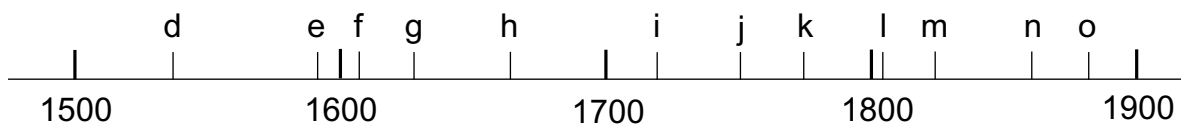
- 2) The Battle of Hastings took place in 1066.
In what year will the 950th anniversary take place?

- 3) Ann was born on 27th September 1998.
Her dad is 26 years older than her.
 - a) In which year was he born?
 - b) In what year will Ann be 26?

- 4) Sue was born on 24th May 1998.
Her brother is exactly 18 months older than her.
When was he born?

- 5) Lin's mum bought a car on 20th July 2004 and sold it exactly 18 months later.
When did she sell it?

- 6)



On this date line, say which letters represent these events.

- (i) The Great Fire of London in 1666
- (ii) Industrial Revolution begins in 1750
- (iii) First Boer War begins in 1880
- (iv) The Spanish Armada was defeated in 1588

42 Time Answers

1. Time

- a) 2 o'clock b) 7 o'clock c) half past 1
d) a quarter to six or 5:45
e) 9:15 or a quarter past nine f) 4:25 or 25 past 4
g) 6:40 or 20 to 7 h) 10 to 3 or 2:50 i) 5 past 7
j) 20 past 12 k) 25 to 12 l) 10 past 9

2. Time Intervals 1

- b) 1 hour 15 minutes c) 25 minutes d) 45 minutes
e) 25 minutes

3. Time Intervals 2

- a) 2 hours b) 8 hours c) 6 hours d) 15 minutes
e) 2 hours 35 minutes f) 25 minutes g) 35 minutes
h) 35 minutes

4. Time Intervals 3

- a) 6 hours b) 20 minutes c) 50 minutes
d) 25 minutes e) 50 minutes f) 45 minutes
g) 55 minutes h) 50 minutes

5. Digital Times a.m.

- a) 11:45 b) 03:30 c) 00:20 d) 05:00 e) 10:40
f) 06:50 g) 01:55 h) 04:25 i) 07:05 j) 09:35
k) 08:10 l) 02:15

6. Digital Times p.m.

- a) 14:50 b) 17:25 c) 19:00 d) 21:30 e) 23:10
f) 19:45 g) 13:15 h) 14:20 i) 15:35 j) 23:05
k) 21:40 l) 23:55

7. Adding Time 1

- a) 07:20 b) 03:00 c) 35 minutes d) 40 minutes
e) 14:40 f) 20:55 g) 2 hours 5 minutes h) 05:15

8. Adding Time 2

- a) 20 minutes b) 19:00 c) 30 minutes d) 17:38
e) 11:27 f) 2 hours 24 minutes g) 05:07
h) 1 hour 27 minutes i) 10:07 j) 11:03

9. Years 1

- 1) 1990 2) 1925 3) 1956 4) 1928 5) 1899
6) 1998 7) 1950 8) 14th July 1994 9) 1968
0) 1939 11) 1916

10. Years 2

- 1) a) 1945 b) 2020 2) 2016 3) a) 1972 b) 2024
4) 24th November 1996 5) 20th January 2003
6) (i) h (ii) j (iii) o (iv) e

Sorting 3

The pupils in 6G are weighed.

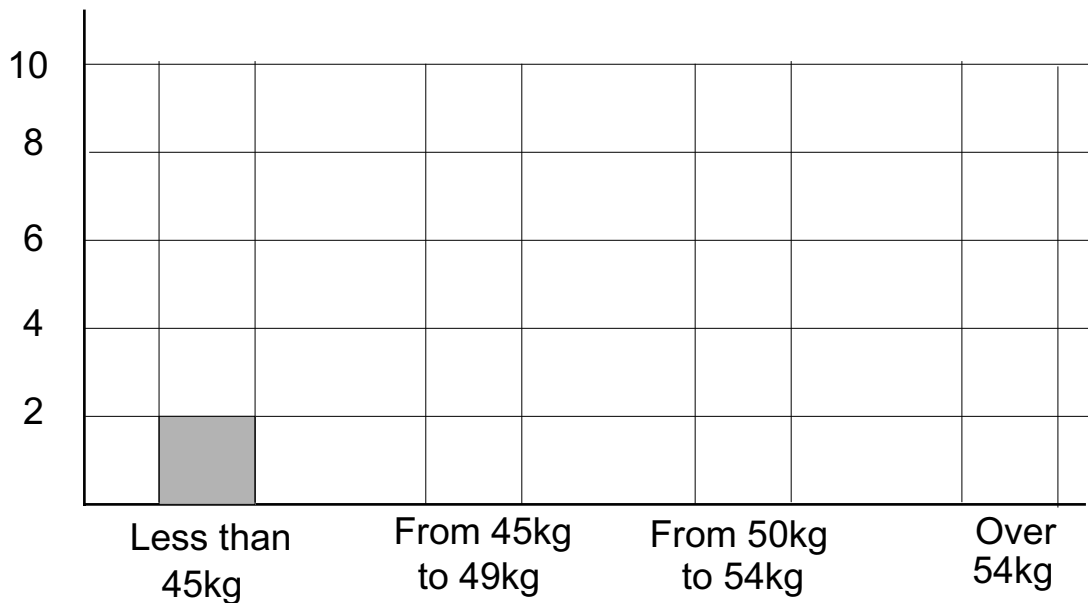
Here is a list of their weights. They are in kilograms.

51, 50, 56, 46, 51, 52,
 54, 57, 52, 59, 48, 55,
 45, 41, 53, 47, 50, 50,
 48, 45, 43, 55, 47, 52

- a) Now write them down in order of size. Start with the smallest.
- b) How many pupils weigh less than 45 kg?
- c) Put this number in the table below. Finish off the table.

	Number of pupils
Less than 45 kg	
From 45 to 49 kg	
From 50 to 54 kg	
Over 54 kg	

- d) Now draw blocks to show this. The first block has been drawn for you.



43 Sorting Answers

Sorting 1

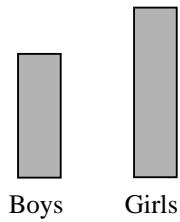
a) Girls

Emily
Olivia
Sophie
Lauren
Jessica
Bethany
Abigail
Molly
Kaylie
Eleanor
Sharron
Alice
Grace
Sarah

Boys

Thomas
Daniel
Matthew
Mohammed
Ryan
Adam
Liam
Michael
Jacob
Joseph

b) 14 and 10 c) There are more girls than boys so the girls bar should be longer.



Sorting 2

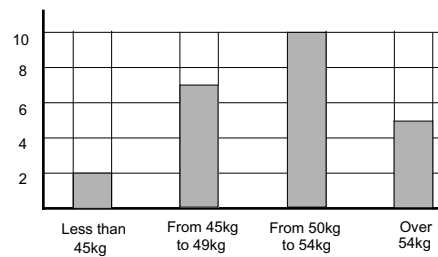
a) 3 b)

	Shaded	Not shaded
3 sided shapes	3	1
4 sided shapes	3	5
5 sided shapes	3	3

Sorting 3

41, 43, 45, 45, 46, 47, 47, 48, 48, 50, 50, 50, 51, 51, 52, 52, 52, 53, 54, 55, 55, 56, 57, 59

	Number of pupils
Less than 45 kg	2
From 45 to 49 kg	7
From 50 to 54 kg	10
Over 54 kg	5



Reading Tables 1

The bus service between Conmere and Dodleigh goes once a day.

It leaves Conmere at 09:15 and arrives in Dodleigh at 13:10.

This table shows all the stops on the route.

	Arrive	Depart
Conmere		09:15
Willich	09:56	10:00
Croftley	11:06	11:10
Mollerton	11:42	11:46
Jonsford	12:24	12:28
Dodleigh	13:10	

For example - The bus arrives in Croftley at 11:06 and departs at 11:10

Use the table to do these:-

- a) For how long does the bus stop at each town?
- b) What is the total time taken to get from Conmere to Dodleigh?
- c) How long does the bus take to get from Mollerton to Jonsford?
- d) Isobel gets the 10 o'clock bus from Willich.
She gets off at Jonsford.
How long did the journey take?
- e) Which journey takes the longest; Croftley to Mollerton or Mollerton to Jonsford?
- f) The bus is 7 minutes late.
At what time does it arrive at Willich?

44. Information Answers

1. Information 1

- 1) 5 2) 3 3) 7 4) 13 5) 14 6) 27 7) 10
8) 12 9) 5E

2. Information 2

- 1) a) 15 b) 13 c) 9 d) 8 2) a) 13 b) 17 c) 3 d) 6

3. Information 3

- 1) £1.15 2) £3.25 3) fish pie 4) £4.25 5) 15p
6) 35p

4. Information Tables 1

- a) 127 miles b) 12 miles c) 139 miles d) 63 miles
e) Oswestry and Wrexham f) 69 miles

5. Information Tables 2

- 1) 16°C 2) 20°C 3) 0 millimetres 4) 2mm
5) Wednesday 6) Tuesday
7) Monday and Saturday 8) Sunday and Thursday
9) Wednesday 10) 28 millimetres 11) 9°C

6. Information Tables 3

- a) 10:37 b) 22 minutes c) 09:50 d) 11:37
e) 6 minutes f) 09:41 g) (i) 9:50pm (ii) 10:12pm

7. Information Tables 4

- a) 12 b) 4 c) Thursday d) Tuesday e) 42 f) 52
g) orange h) 43 i) Sunday j) 246

8. Reading Tables 1

- a) 4 minutes b) 3 hours 55 minutes c) 38 minutes
d) 2 hours 24 minutes e) Mollerton and Jonsford
f) 10:03

9. Reading Tables 2

- a) £11.50 b) £8.25
c) £13.25 (family ticket + 1 child) d) £20
e) Yes. Separately they cost £11.25

10. Clothes Sizes

- a) 8 b) Saturday c)

Size	Tally	Frequency
S		11
M		23
L		20
XL		8
	Total	62

- d) 8 e) medium

11. Calendar 1

- a) Friday b) December 31st c) 28 d) 4 e) 5
f) February 11th g) January 22nd h) February 7th
i) 9

12. Calendar 2

- a) Wednesday b) October 31st c) 31 d) 5 e) 4
f) 26th September g) 16th October
h) 2nd November i) 13

13. Calendar 3

- a) Tuesday b) November 11th c) September
d) 13 e) Thursday f) Monday g) 13
h) September 6th

14. Calendar 4

- a) April 30th b) 5 c) January 23rd d) 4th February
e) 28 f) Monday g) Monday h) Sunday
i) Tuesday

15. Years

- Tony Blair becomes Prime Minister - 1997
Nelson Mandela released from prison - 1990
First episode of Eastenders - 1985
First man lands on the moon - 1969
England win the World Cup - 1966
Coronation of Queen Elizabeth II - 1953
School leaving age raised to 15 - 1947
First TV station - 1936
First Radio Station - 1924
First world war ends - 1918
Titanic sinks - 1912
Queen Victoria dies - 1901

16 Using Information 1

- a) 512km b) 467km c) 192km
d) Aberdeen and London
e) Birmingham and Liverpool
f) Edinburgh and Norwich
g) Liverpool and Aberdeen h) 888km

17 Using Information 2

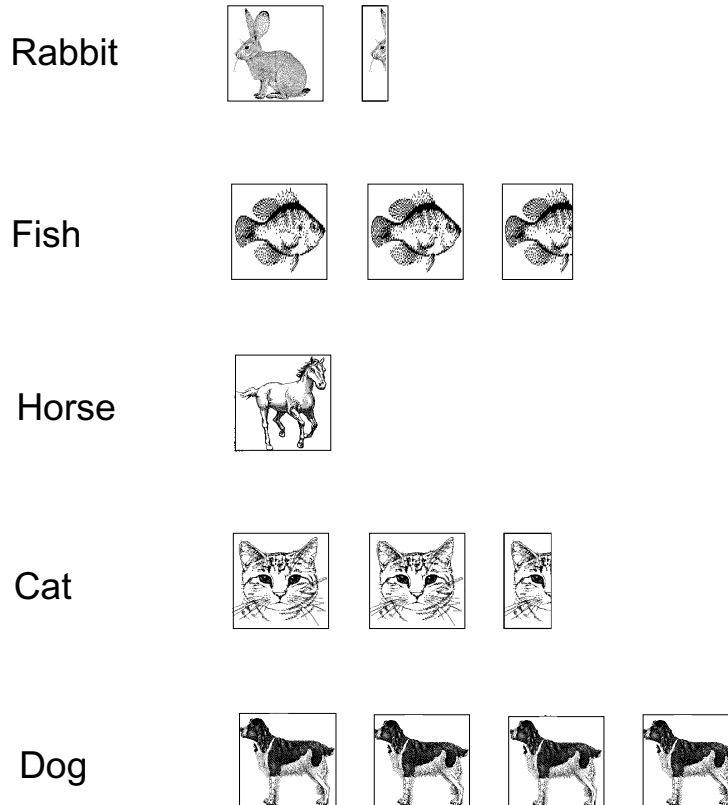
- a) 8:45 b) 20 minutes c) 07:00
d) 1 hour 45 minutes e) 1:55am f) 20 minutes
g) 04:10 h) 21:05 i) 00:10

Pictograms 3

A class of pupils were asked what types of pet they had.

The results are shown on the pictogram below.

One square represents 4 replies.



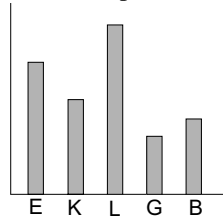
- How many pupils said that they have a dog?
- How many pupils said they kept fish?
- The number of people with a horse was 5.
Draw the shape missing from the diagram.
- How many pupils said that they kept a cat?
- Which two groups had the same number of replies?
- What was the total number of replies?

11. Bars 3

a) 7 b) 2 c) 32 d) 18 e) 6 f) 26

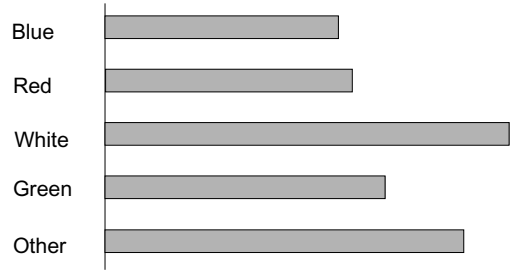
12. Tables and Charts 1

a) Lion b) Giraffe c) Elephant d)



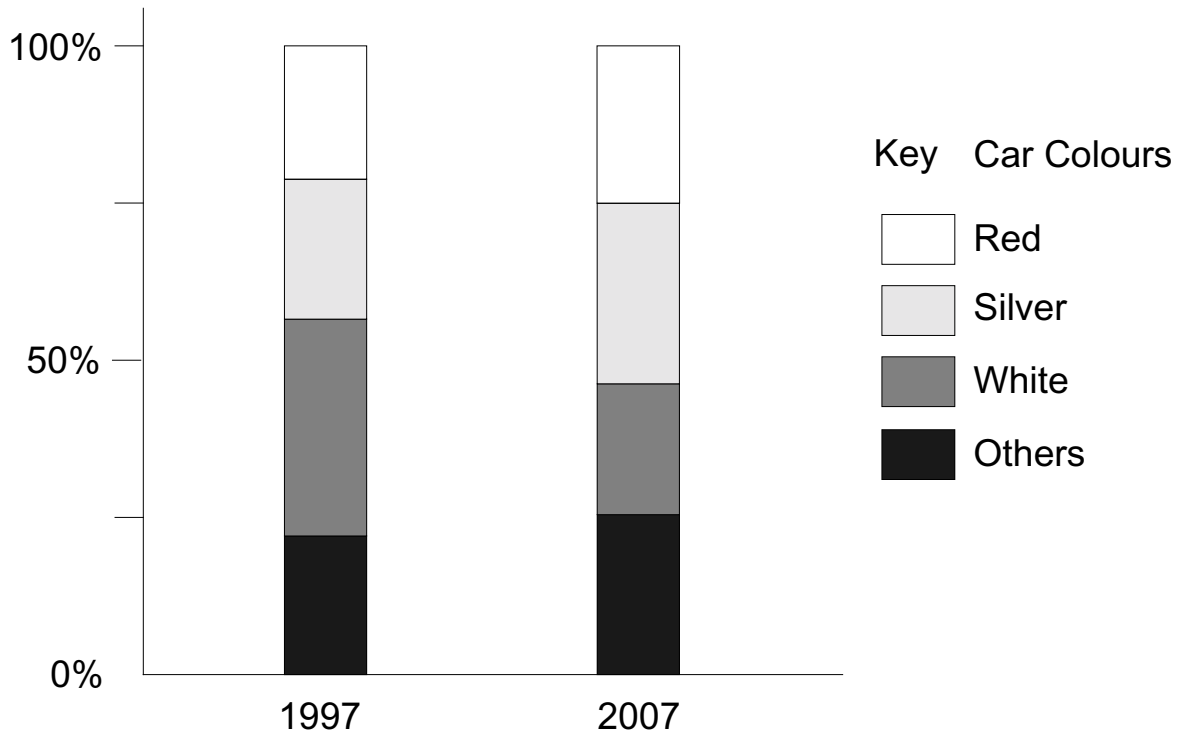
13. Tables and Charts 2

a) 16 b) white c) green d)



Percentage Bars 1

The diagram shows the colours of cars sold by a dealer.
One bar shows those sold in 1997 and the other in 2007.



- Which colour was the most popular in 1997?
- Which colour was the most popular in 2007?
- Which colour sold less in 2007 than in 1997?
- What was the approximate share of red cars in 1997?
- What was the approximate share of silver cars in 2007?
- What was the approximate increase share of silver cars in 2007 compared with 1997?
- Approximately by what percentage did the white share go down between 1997 and 2007?
- The total number of cars sold in 1997 was 2,500. Approximately how many were white?
- The total number of cars sold in 2007 was 3,200. Approximately how many were white?

49. Percentage Bars Answers

Percentage Bars 1

a) White b) Silver c) White d) $\frac{1}{5}$ e) $\frac{1}{4}$

f) 6% g) 43% h) 840 i) 650

Percentage Bars 2

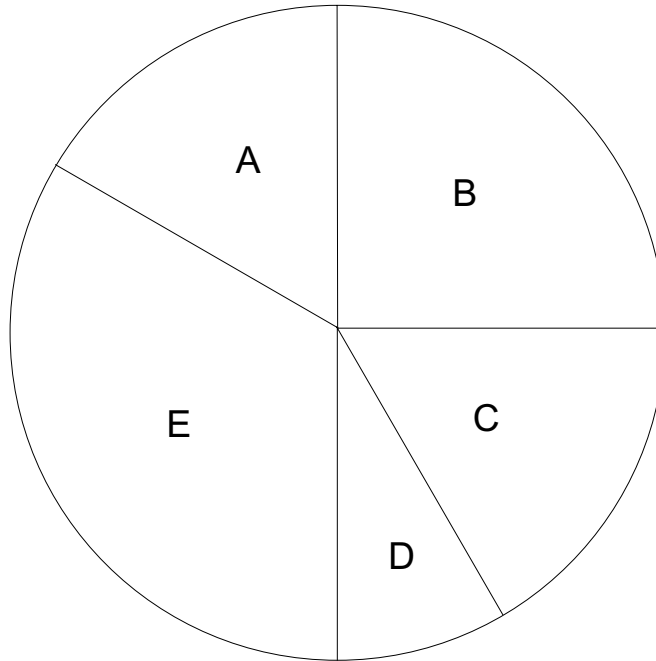
a) Peninsular Harbour b) Peninsular Harbour
c) 106 hours and 68 hours d) 20% e) 32% g) Plays
h) Variety

Reading Pie Charts 2

Clara surveys the cars in a car park.

She writes down the colour of each car.

When she represents these colours on a pie chart it looks like this.



However, she has forgotten to put in the colour of the car.

She knows that one third of the cars are blue and a quarter are white.

There are the same number of black and red cars.

The final area is a mixture which she labels 'others'.

- Which area represents the 'other' colours?
- Which areas represent the four colours of the cars?
- There were 30 white cars.

How many cars were there altogether?

- How many blue cars were in the car park?

50. Pie Charts Answers

1. Reading Pie Charts 1

- a) Crisps b) Juice c) Sweets and chocolate
d) Crisps e) $\frac{1}{4}$ f) Fruit

2. Reading Pie Charts 2

- a) D b) A - black B - white C - red E - blue
c) 120 d) over 40

3. Reading Pie Charts 3

- a) Semi-detached b) Bungalows
c) Detached and Terraced homes d) Semi-detached
e) Detached or Terraced f) 240 g) 50-55 h) 75
i) 42 j) 53 k) over l) $\frac{1}{4}$

4. Reading Pie Charts 4

- a) B b) D c) A or C d) A or C e) E f) 720
g) 66 h) 288 i) 66 j) 120

5. Comparing Pie Charts 1

- a) Oak b) It is not known how many trees there are on each farm. A larger proportion of farmer Jones's trees are ash than farmer Williams's
c) He has more trees than farmer Jones because his smaller proportion has a bigger value.

6. Comparing Pie Charts 2

- a) More people went on Saturday than Monday
b) Lots more go to see it on Saturday than Monday

7. Comparing Pie Charts 3

- a) Brandon b) Charlie
c) Brandon between $\frac{1}{4}$ and $\frac{1}{3}$; Charlie just over $\frac{1}{3}$
d) Brandon - about $\frac{1}{5}$; Charlie about $\frac{1}{6}$
e) Entertainment
f) We don't know the total amount of money each has to spend g) Charlie gets more pocket money than Brandon

Chances 2

1) John has a bag.

It has red and blue marbles in it.

He cannot see the marbles but he can take them out.

There are more red marbles than blue marbles.

He puts his hand into the bag and takes out a marble.

Fill in the blanks in these statements.

a) He has a better chance of getting a ... marble than a ... marble.

b) The marble he is most likely to get is a ... marble.

c) The marble he is least likely to get is a ... marble.

2) Holly has a bag containing black and white beads.

There are 4 black beads in the bag.

She cannot see into the bag but she can take the beads out.

a) The chances of her getting a white or black bead are equally likely.

How many white beads are in the bag?

b) Holly adds a black bead to the bag.

What coloured bead is now more likely to be drawn?

c) Holly adds a white bead to the bag.

How many white beads are now in the bag?

d) How many beads are in the bag?

e) She shakes up the bag. She takes a bead from the bag.

What colour bead is she more likely to get?