

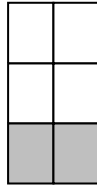
Equivalent Fractions

L.3

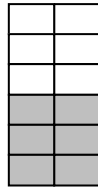
1) Which of the fractions below are the same size as $\frac{1}{2}$



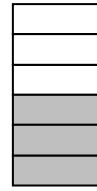
$$\frac{1}{2}$$



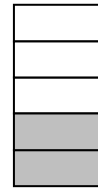
$$\frac{2}{6}$$



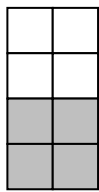
$$\frac{6}{12}$$



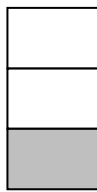
$$\frac{3}{6}$$



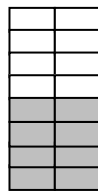
$$\frac{2}{5}$$



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



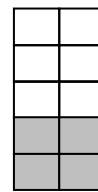
$$\frac{1}{3}$$



$$\frac{8}{16}$$



$$\frac{2}{4}$$

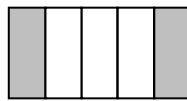


$$\frac{4}{10}$$

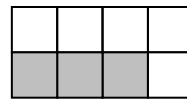
2) Which of these fractions is equivalent to $\frac{1}{3}$?



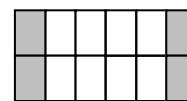
$$\frac{2}{6}$$



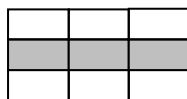
$$\frac{2}{5}$$



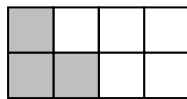
$$\frac{3}{8}$$



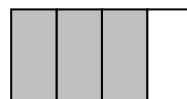
$$\frac{4}{12}$$



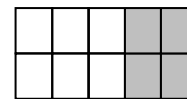
$$\frac{3}{9}$$



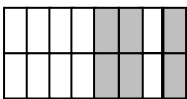
$$\frac{3}{8}$$



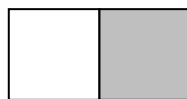
$$\frac{3}{4}$$



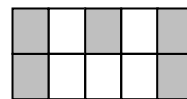
$$\frac{4}{10}$$



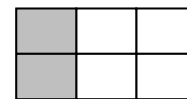
$$\frac{6}{16}$$



$$\frac{1}{2}$$



$$\frac{5}{10}$$



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

3) Which of these fractions are equivalent to $\frac{3}{4}$?

$\frac{1}{3},$

$\frac{6}{8},$

$\frac{4}{9},$

$\frac{5}{7},$

$\frac{12}{16},$

$\frac{10}{12},$

$\frac{6}{10},$

$\frac{9}{12},$

$\frac{3}{5},$

$\frac{7}{11},$

$\frac{4}{6}$

Approximations

Do not use a calculator

L.3

- 1) In each of the following, say what the value of the 6 is each time
a) 26 b) 136 c) 560 c) 164 d) 654 e) 761 f) 436
- 2) In each of the following, say what the value of the 1 is each time
a) 10 b) 210 c) 601 d) 186 e) 551 f) 910 g) 619
- 3) There are 174 pupils in year 7.
David says "There are about 180 pupils in year 7"
Helen says "There are about 170 pupils in year 7"
Who is correct and why?
- 4) David and Alice estimate the number of pupils in the school assembly. They count up the number of rows of seats and the number of seats in each row. Not every seat has someone sitting on it and there are some pupils standing.
Alice says "I think there are about 250"
David says "I Think there are about 220"
After assembly they find out that there were 239 pupils. Who gave the closest estimate?
- 5) In the school hall there are 25 rows of seats. Each row has 20 seats in it.
a) Calculate how many seats there are altogether.
b) On tuesday evening at the school production there are some seats left empty.
Which of these statements could be true?
"There are 500 people at the production"
"There are less than 500 people at the production"
"There are about 480 people at the production"
"There are more than 500 people at the production"
"There are more than 400 people at the production"
c) On friday evening all the seats are taken and there are some people standing up.
Write down three statements which could be true to describe the number of people at the production.
- 6) Catherine estimates that there are about 750 people at the school football match.
A bus arrives with some more spectators. Sian says "The bus is full so there must be about 60 people on it". If Sian is correct, which of the following statements are correct?
"There are now about 800 people at the football match"
"Thre are now about 810 people at the football match"
"There are now more than 800 people at the football match"
"There are now exactly 810 people at the football match"

Number Chains

Do not use a calculator

L.3

In each of the following number chains, write down the next two numbers and say what the rule is.

$$2 \longrightarrow 4 \longrightarrow 6 \longrightarrow 8 \longrightarrow 10 \longrightarrow$$

$$5 \longrightarrow 10 \longrightarrow 15 \longrightarrow 20 \longrightarrow 25 \longrightarrow$$

$$1 \longrightarrow 3 \longrightarrow 5 \longrightarrow 7 \longrightarrow 9 \longrightarrow$$

$$0 \longrightarrow 3 \longrightarrow 6 \longrightarrow 9 \longrightarrow 12 \longrightarrow$$

$$2 \longrightarrow 5 \longrightarrow 8 \longrightarrow 11 \longrightarrow 14 \longrightarrow$$

$$1 \longrightarrow 6 \longrightarrow 11 \longrightarrow 16 \longrightarrow 21 \longrightarrow$$

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

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

$$1 \longrightarrow 1 \longrightarrow 2 \longrightarrow 3 \longrightarrow 5 \longrightarrow$$

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

$$5 \longrightarrow 3 \longrightarrow 1 \longrightarrow -1 \longrightarrow -3 \longrightarrow$$

$$5 \longrightarrow 3 \longrightarrow 1 \longrightarrow -1 \longrightarrow -3 \longrightarrow$$

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

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

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

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

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

Money Problems

L.3

- 1) Jenny goes to the local shop. She buys a bottle of milk for 42p, a comic for 48p and a packet of sweets for 62p.
 - a) How much did she spend altogether?
 - b) She paid with a £2 coin. How much change did she get?

- 2) In the supermarket a loaf of bread costs 37p. How many loaves can David buy with a £2 coin? How much money will be left over?

- 3) The single train fare from Gary's home into the centre of town is £1.90. The single train fare from town back to Gary's is also £1.90.
 - a) How much does Gary pay altogether if he goes to town and back?
The next week Gary buys a return fare for £3.20. This gets Gary into town and back out again.
 - b) If he pays with a £10 note what change will he get?
 - c) He says "It is cheaper to buy a return ticket than two single tickets". how much will he save by buying a return?

- 4) Graham writes out a cheque for sixty three pounds and 16 pence. How did he write this amount in figures?

- 5) Abigail has to write a cheque. She writes the amount in words 'Three hundred and fifty six pounds, twenty four pence. Write down this amount in figures.

- 6) Susan has £10.25. She wants to buy 5 christmas presents. She spends the same amount of money on each present. How much does she spend on each present?

- 7) Paula buys cinema tickets. They cost £5.50 each. How many can she buy with a £20 note, and how much money will be left over?

- 8) How many chocolate bars costing 27p each can be bought for £5? How much money will be left over?

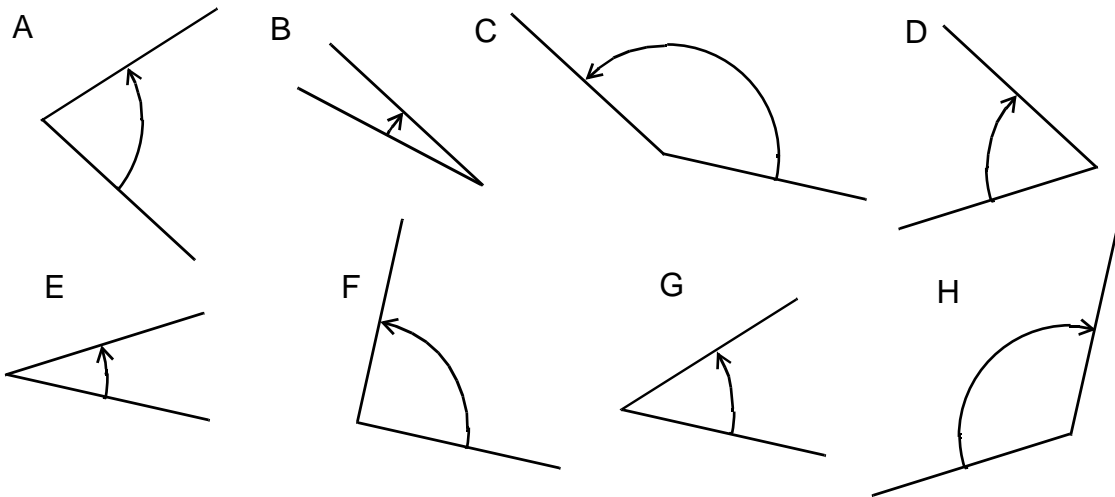
- 9) Ranjit goes to the cinema. He buys a ticket for £4.25 and pop corn for £1.30. His bus fare costs £1.40 and he buys a drink for 76p when he leaves the cinema. If he leaves home with a £10 note, how much change does he return with?

- 10) Eileen goes to the supermarket. She buys 4 tins of beans costing 32p each, 7 oranges costing 18p each, 2 packets of frozen peas costing 78p each and 3 bottles of cola costing 45p each.
 - a) What was the total cost of these items?
 - b) In her purse she had a £10 note, four £1 coins, one £2 coin, three 20p coins and four 5p coins. If she gave the correct money, which coins did she use?

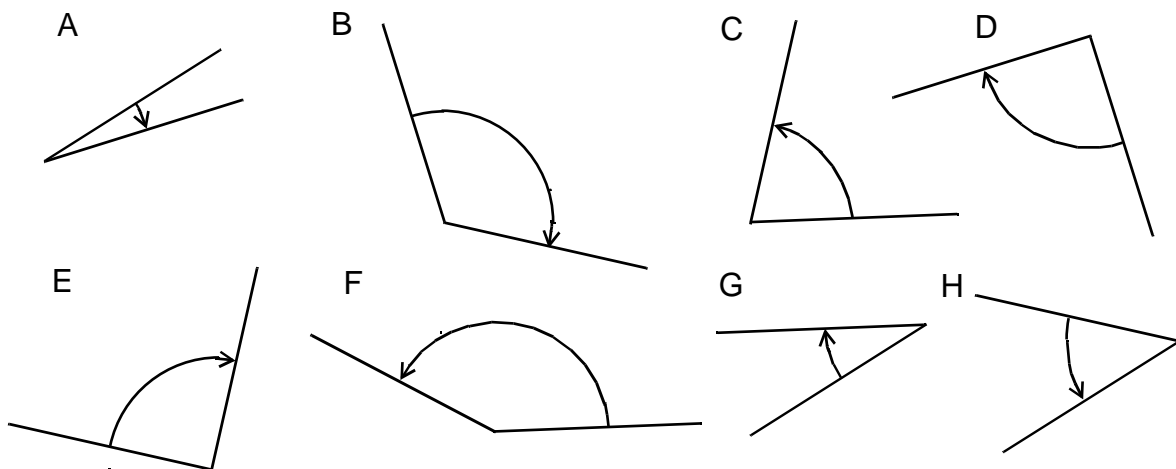
Angles

L.3

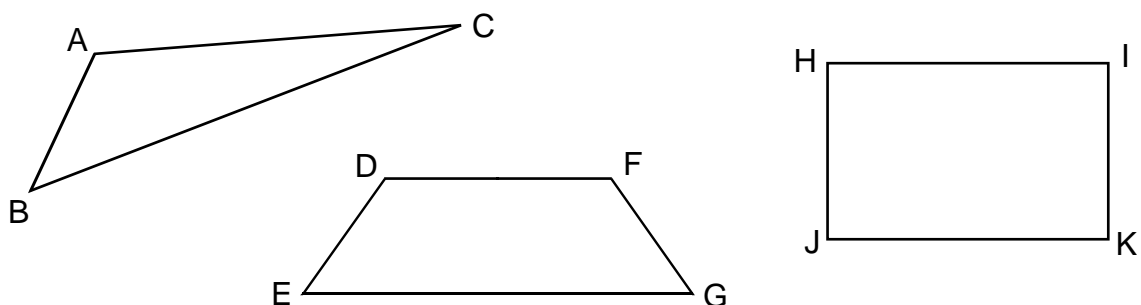
1) There are 8 angles shown below. Write down the angles in order of size. Start with the smallest and end with the largest.



2) Some of these angles are acute, some are obtuse and some are right angles. Say which are which.



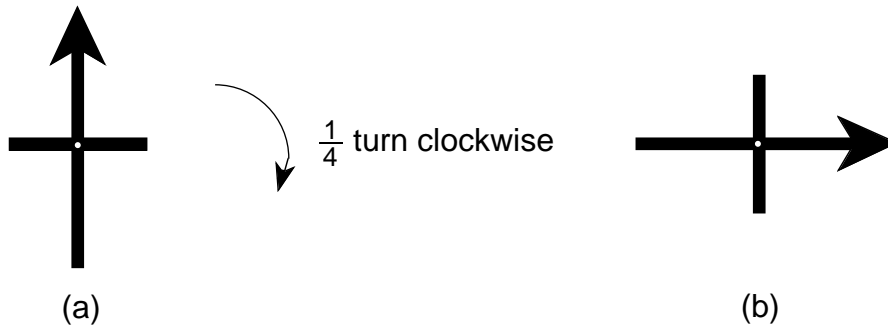
3) In the diagrams below there are 11 angles marked A to K. Write down whether each angle is acute, obtuse or right.



Turning

L.3

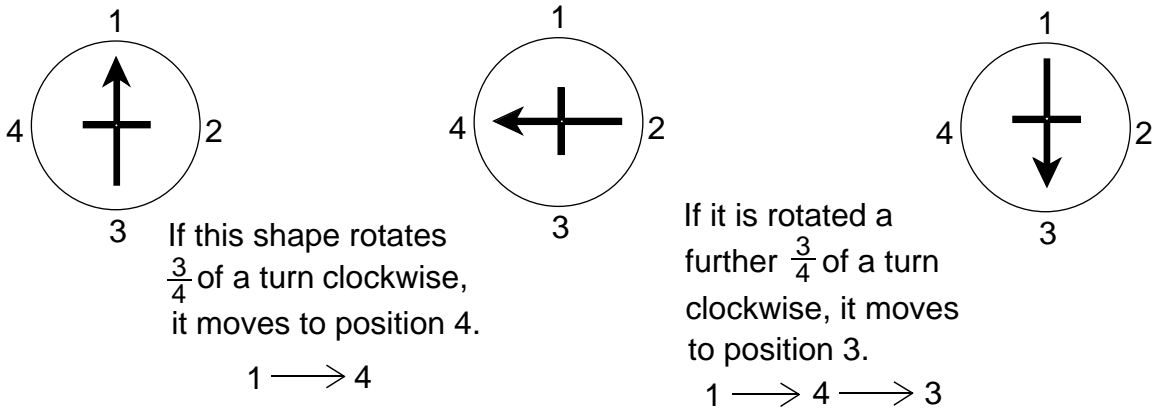
1)



Draw the shape that (a) will look like when it is rotated

- (i) $\frac{1}{4}$ of a turn anticlockwise
- (ii) $\frac{1}{2}$ of a turn anticlockwise
- (iii) $\frac{1}{2}$ of a turn clockwise
- (iv) $\frac{3}{4}$ of a turn clockwise
- (v) $1\frac{1}{4}$ turns anticlockwise

2) a)



Continue this number sequence for $\frac{3}{4}$ of a turn clockwise until you reach position 4 again

b) This number sequence begins at position 2.

$$2 \longrightarrow 1 \longrightarrow 4$$

What kind of turn does it describe?

c) What is the number sequence for a rotation of $1\frac{1}{4}$ turns clockwise?

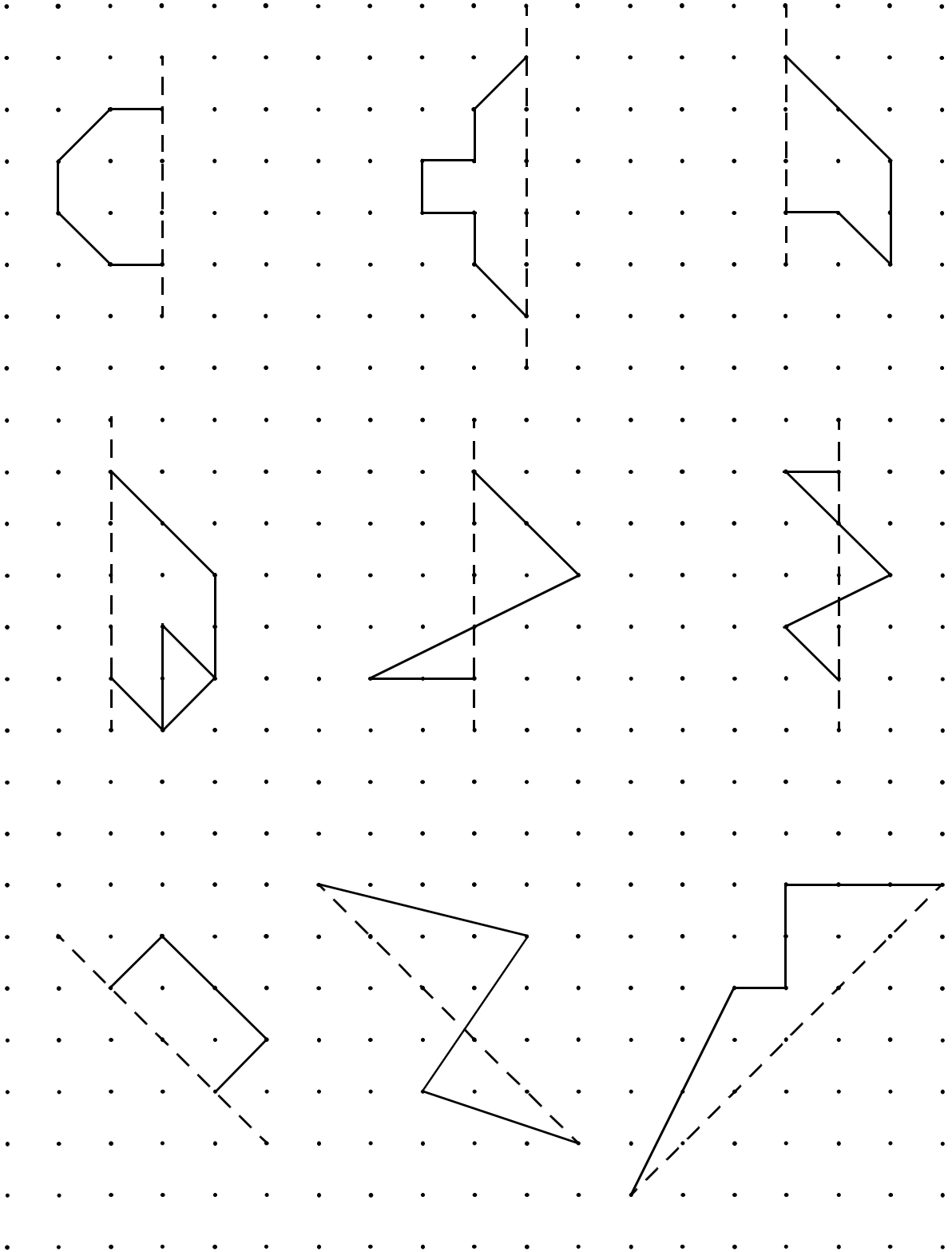
d) What is the number sequence for a rotation of $1\frac{3}{4}$ turns anticlockwise?

Reflections

L.4

Copy each of the following onto square dotted paper.

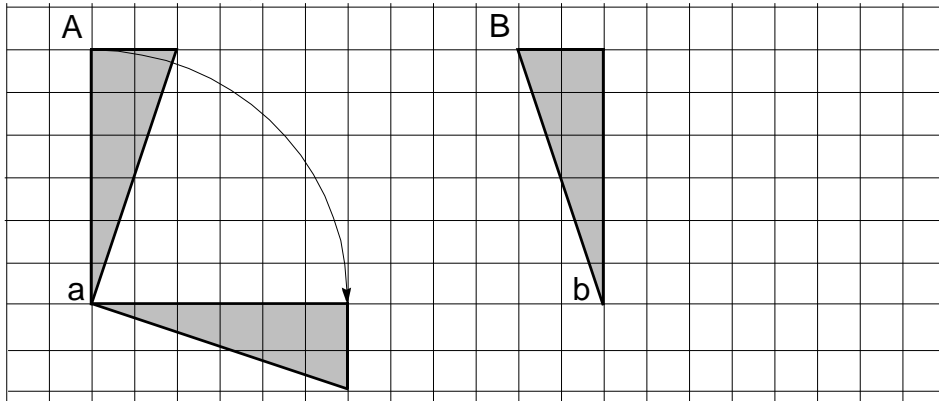
Reflect the shape about the dotted line then draw in this reflection.



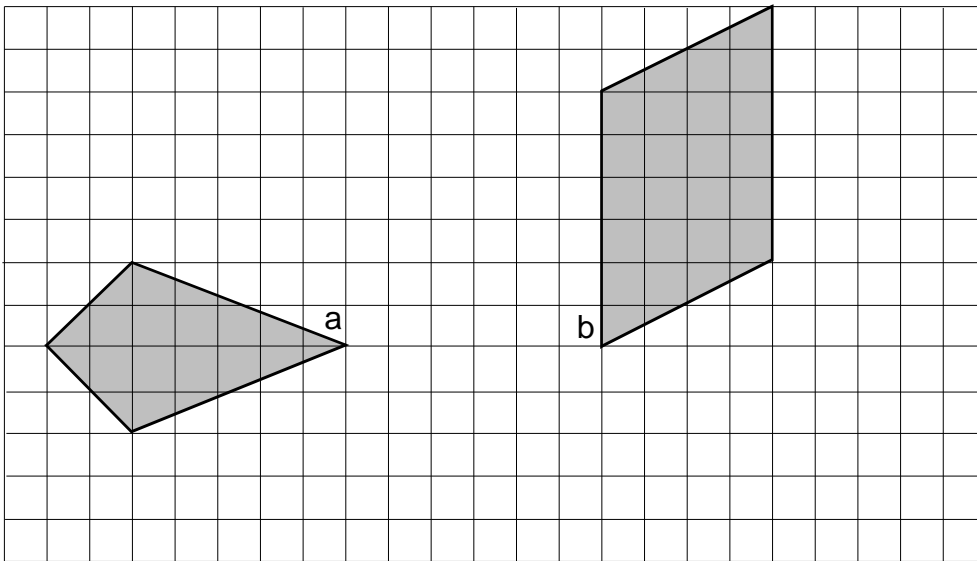
Rotation

L.4

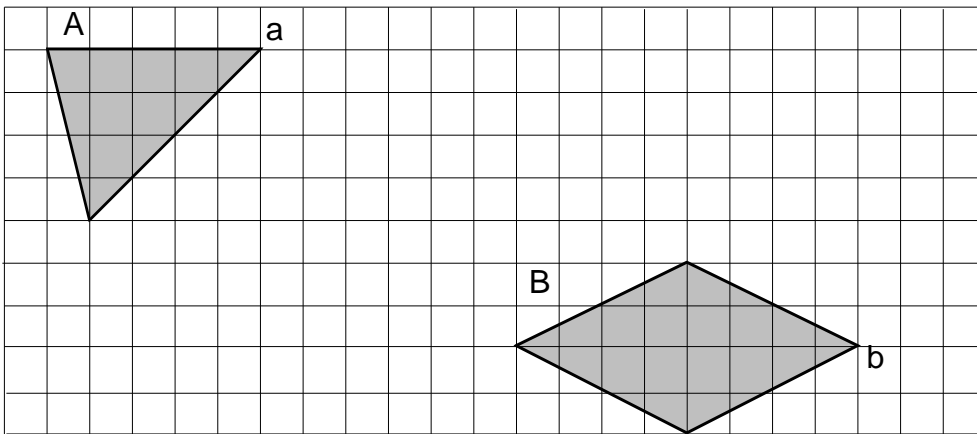
- 1) Diagram A shows a triangle that has been rotated through 90° clockwise. Corner 'a' stays in the same position. Draw the rotation of triangle B with point 'b' staying in the same place.



- 2) Rotate the two shapes below through 90° clockwise. Ensure points 'a' and 'b' stay in the same place.



- 3) Rotate shape A 90° anticlockwise about point 'a' and shape B 90° clockwise about point 'b'. Draw the new shapes.

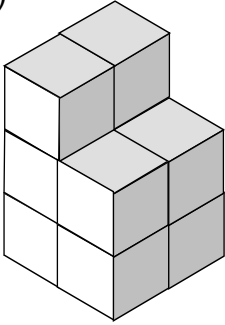


Volume of a shape

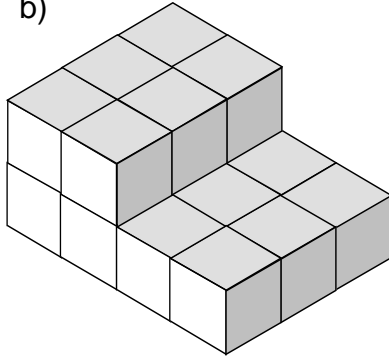
L.4

Each of the diagrams below have been made from two cuboids.
How many small cubes are there in each shape?

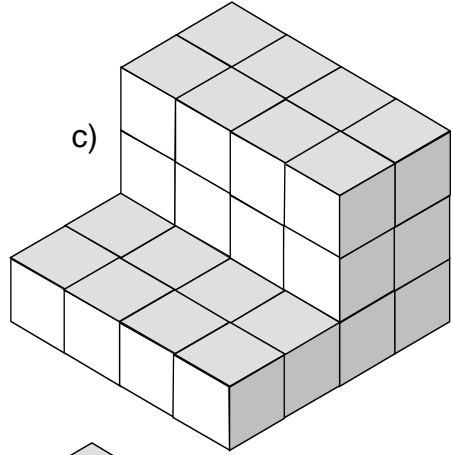
a)



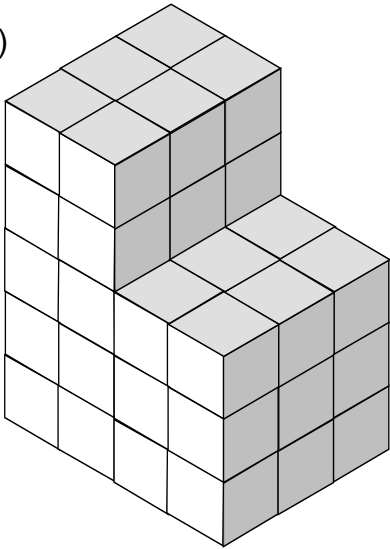
b)



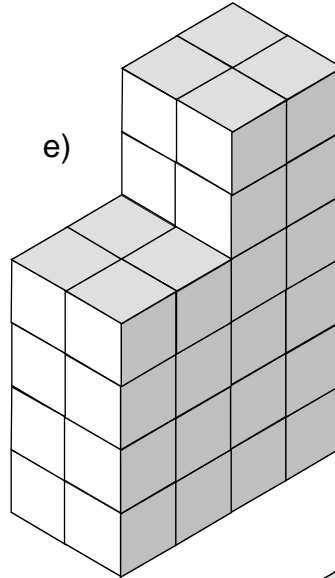
c)



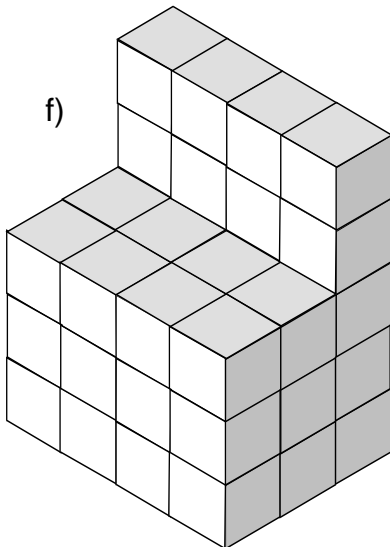
d)



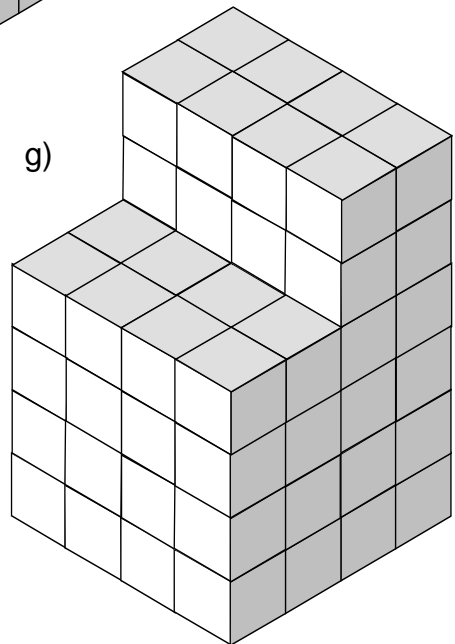
e)



f)



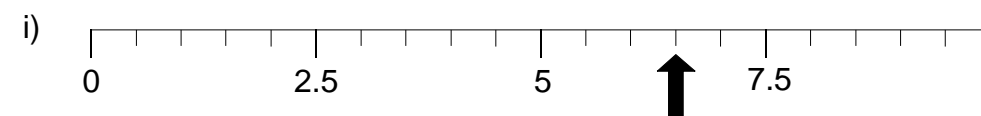
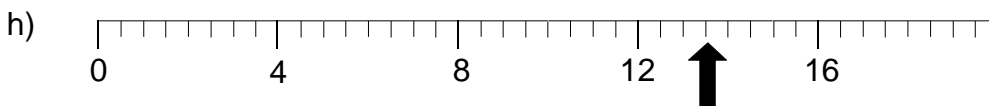
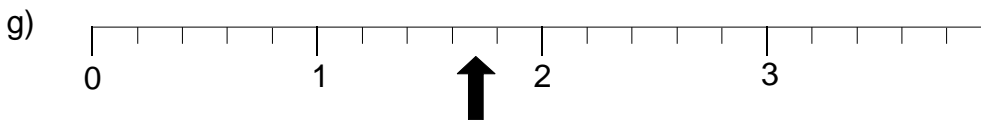
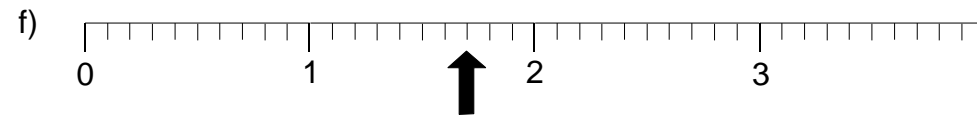
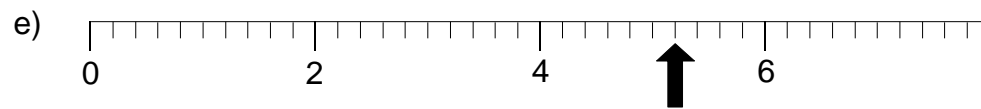
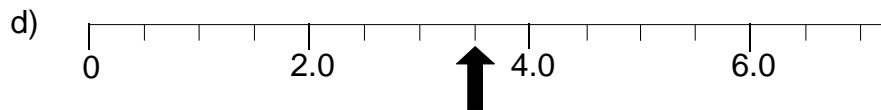
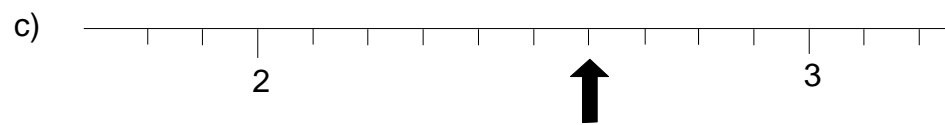
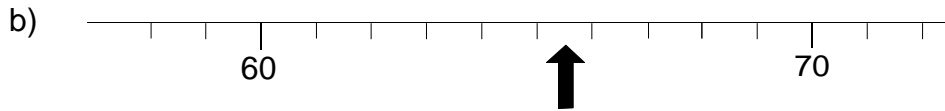
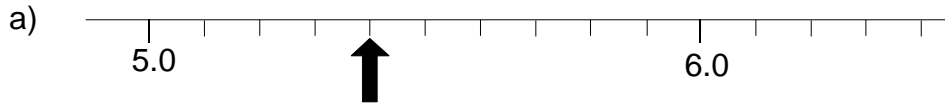
g)



Measuring Lines

L.4

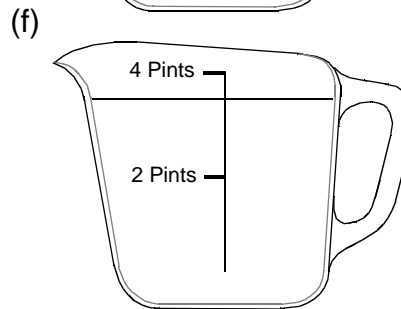
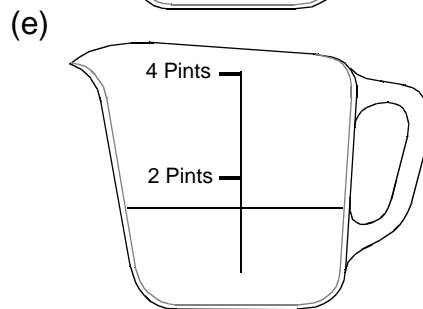
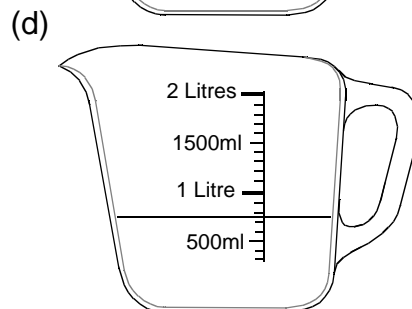
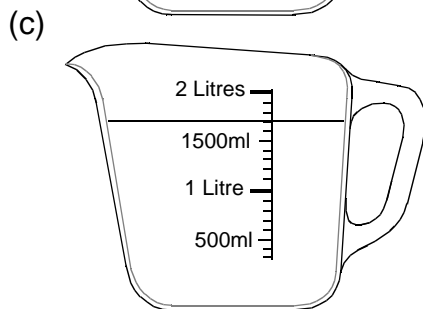
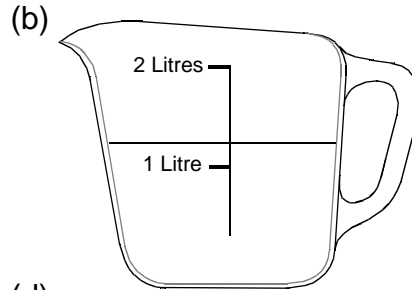
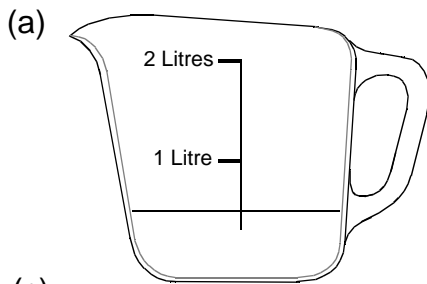
In each of the following diagrams, say what number the arrow is pointing to.



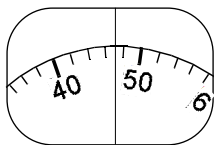
Measuring Instruments

L.4

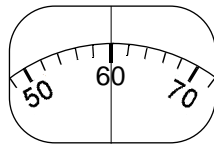
1) What amounts of water have been put into these jugs?



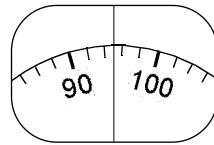
2) Mr. and Mrs. Jones have two daughters, Helen and Laura. Helen is 15 years old and Laura is 11. All four weigh themselves on the bathroom scales. Mr. Jones is the heaviest. Mrs. Jones is the next heaviest and Laura is the lightest. Use these scales to say how much each weigh.



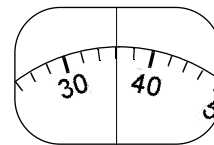
(a)



(b)

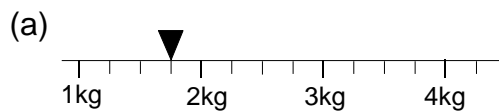


(c)



(d)

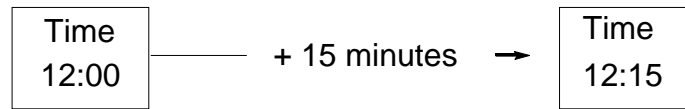
3) What weights do the following scales show?



Adding Time

L.4

1) The diagram below shows the result when 15 minutes is added on to 12:00.



Complete the following time intervals

- a)

11:00	—	+ 10 minutes	→
-------	---	--------------	---	-------
- b)

7:00	— minutes	→	7:25
------	---	---------------	---	------
- c)

.....	—	+ 17 minutes	→	7:37
-------	---	--------------	---	------
- d)

0:30	—	+ 25 minutes	→
------	---	--------------	---	-------
- e)

13:45	— minutes	→	14:05
-------	---	---------------	---	-------
- f)

18:35	—	+ 25 minutes	→
-------	---	--------------	---	-------
- g)

6:45	— minutes	→	7:15
------	---	---------------	---	------
- h)

15:23	—	+ 2 hour 15minutes	→
-------	---	--------------------	---	-------
- i)

.....	—	+ 1 hour 5 minutes	→	12:32
-------	---	--------------------	---	-------
- j)

20:36	—	+ hour minutes	→	23:00
-------	---	--------------------------	---	-------
- k)

1:47	—	+ 3 hour 20 minutes	→
------	---	---------------------	---	-------
- l)

15:38	—	+ hour minutes	→	17:05
-------	---	--------------------------	---	-------
- m)

.....	—	+ 2 hour 3 minutes	→	12:10
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- n)

7:50	—	+ 3 hour 13 minutes	→
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