1 The numbers in this sequence **increase** by 45 each time.

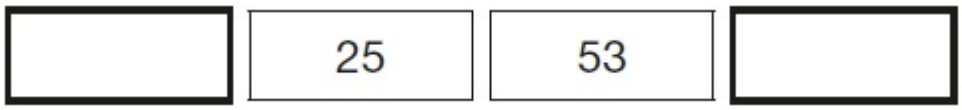
Write the missing numbers.

2 marks

2 In this sequence, the rule to get the next number is

Multiply by 2, and then add 3

Write the missing numbers.



2 marks

3 Write the missing digits to make this **addition** correct.

1 mark

4 John buys one toy car and one pack of stickers.

£1.49

£1.64

He pays with a **£10** note.

How much change does John get?

Show your method

£

2 marks

5 Ken is playing a game. He has 4,289 points.

Then he scores another 355 points.

Ken's target is 6,000 points.

How many **more** points does Ken need to reach his target?

Show your method

2 marks

6 Write the missing numbers to make this **multiplication** grid correct.

×	□	□
9	63	54
□	56	48

1 mark

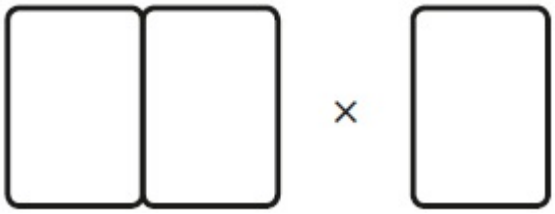
7 Chen uses these digit cards.

She makes a 2-digit number and a 1-digit number.

She multiplies them together.

Her answer is a **multiple of 10**

What could Chen's multiplication be?



1 mark

8 Ally and Jack buy some stickers.

Pack of 12 stickers
£10.49

12 stickers
99p each

Ally buys a pack of 12 stickers for £10.49

Jack buys 12 single stickers for 99p each.

How much more does Jack pay than Ally?

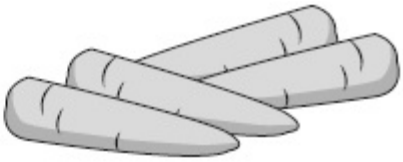
Show your method

£

2 marks

9

potatoes
£1.50 per kg



carrots
£1.80 per kg

Jack buys $1\frac{1}{2}$ kg of potatoes and $\frac{1}{2}$ kg of carrots.

How much **change** does he get from **£5**?

Show your method

£

2 marks

10 This is Kirsty's recipe for breakfast cereal.

50 grams of oats

30 grams of raisins

40 grams of nuts

If she uses 125 grams of oats, how many grams of raisins does she need?

Show your method

g

2 marks

11 Here are four fraction cards.

$\frac{3}{4}$ $\frac{5}{8}$ $\frac{6}{12}$ $\frac{7}{16}$

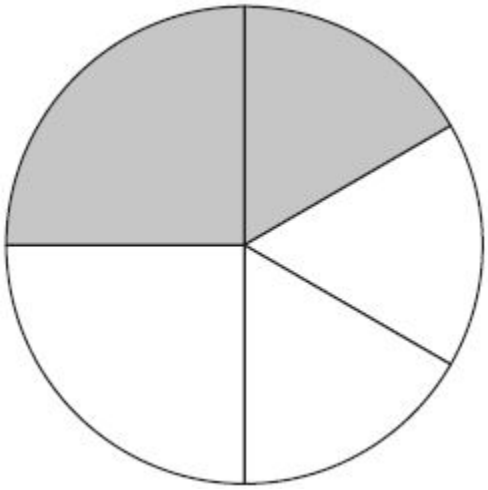
Use any **three** of the cards to make this correct.

$\square < \square < \square$

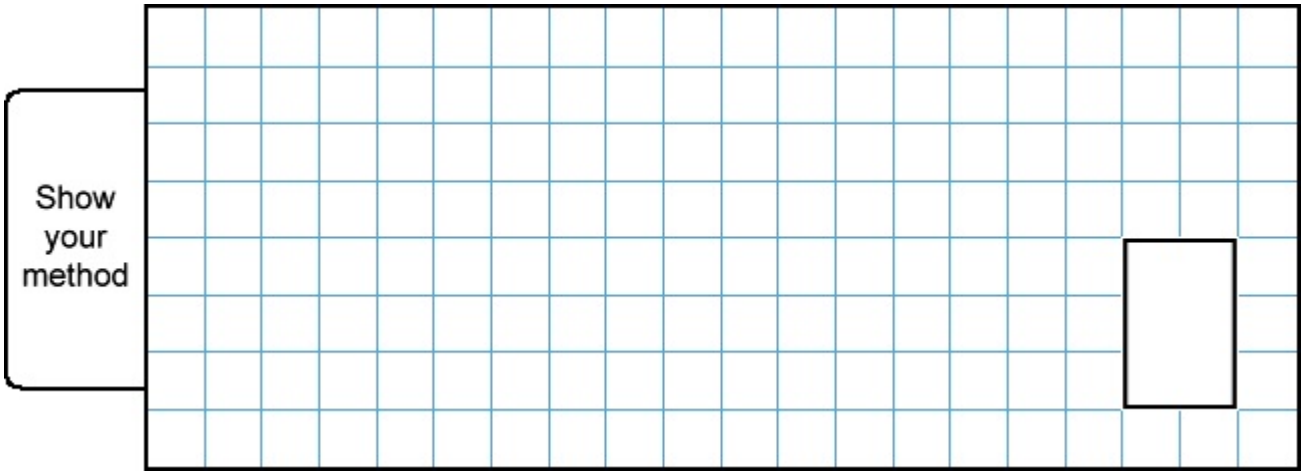
1 mark

12

In this circle, $\frac{1}{4}$ and $\frac{1}{6}$ are shaded.



What fraction of the whole circle is **not** shaded?



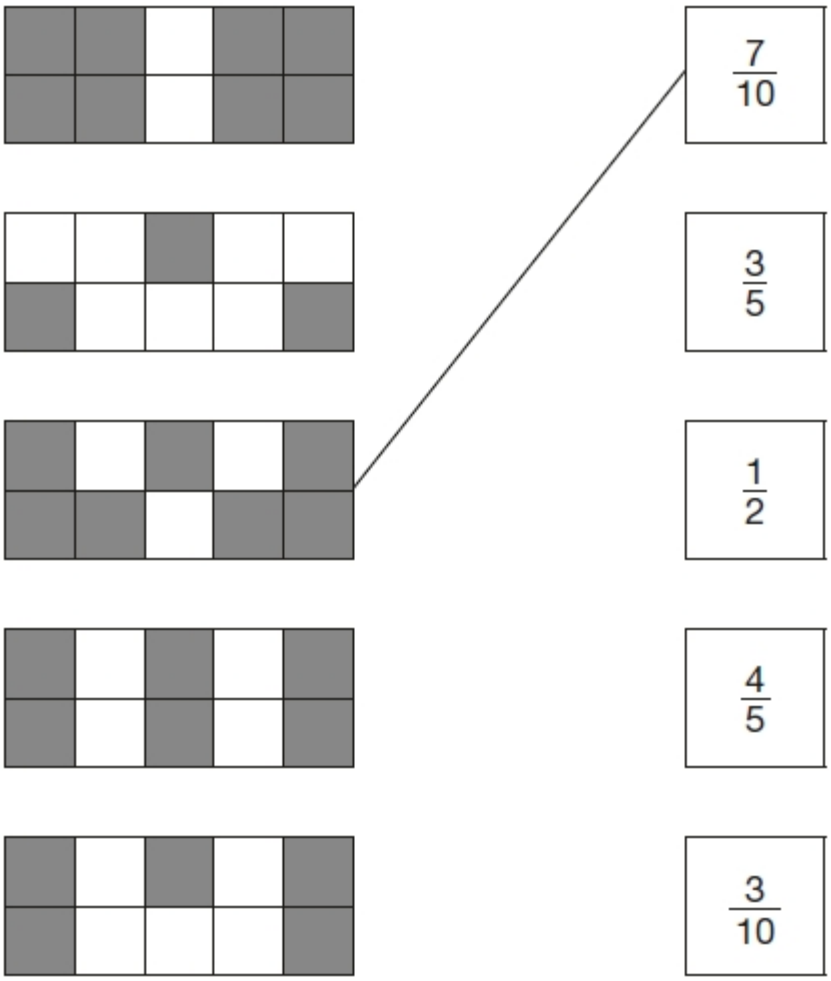
2 marks

13 Here are some shapes made of squares.

A fraction of each shape is shaded.

Match each shape to its equivalent fraction.

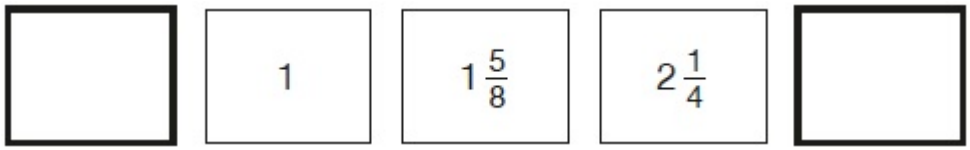
One has been done for you.



2 marks

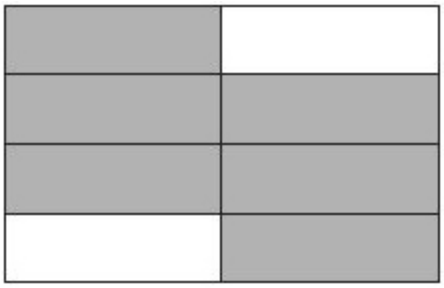
14 The numbers in this sequence increase by the same amount each time.

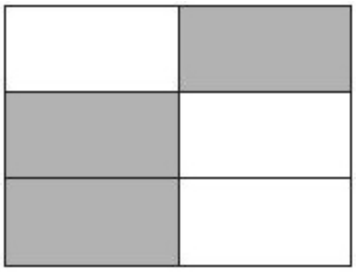
Write the missing numbers.

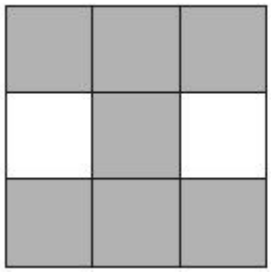


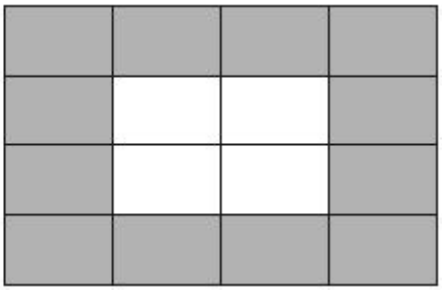
2 marks

15 Tick two shapes that have $\frac{3}{4}$ shaded.









1 mark

16 Here is a sorting diagram for numbers.

Write a number less than 100 in each space.

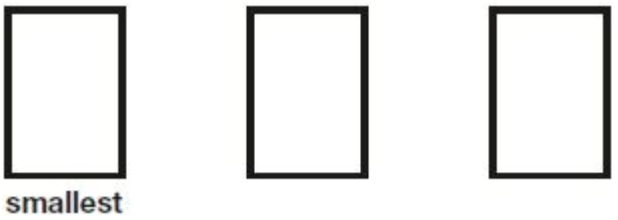
	even	**not** even
a cube number		
not a cube number		

2 marks

17

$\frac{6}{5}$ $\frac{3}{5}$ $\frac{3}{4}$

Write these fractions in order, starting with the **smallest**.



smallest

1 mark

18

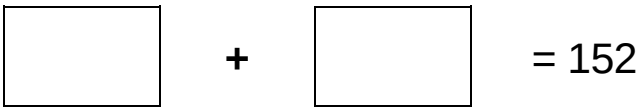
Circle the improper fraction that is equivalent to $6\frac{7}{8}$

$\frac{67}{8}$ $\frac{48}{8}$ $\frac{62}{8}$ $\frac{55}{8}$ $\frac{76}{8}$

1 mark

19

Find two **cube numbers** that total 152

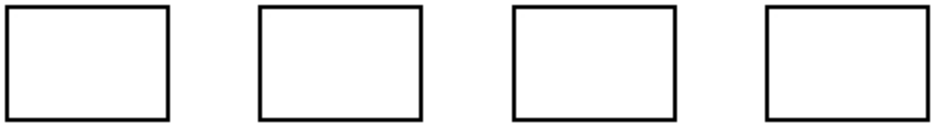


1 mark

20

Put these values in order with the smallest first

5^2 3^2 3^3 2^3



smallest largest

1 mark

21

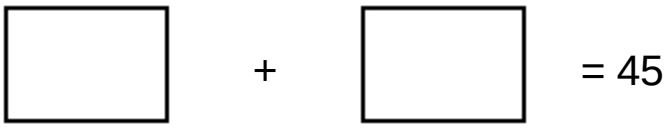
A number **multiplied by itself** gives the answer **49**

Circle the number.

2 3 4 5 6 7 8 9

1 mark

22 Find two **square numbers** that total 45

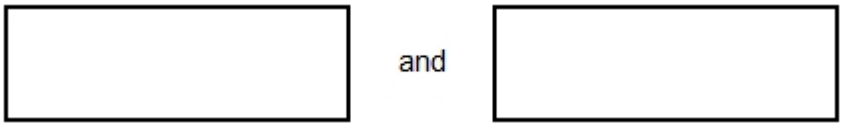


1 mark

23 36 and 64 are both square numbers

They have a sum of 100

Find two **square** numbers that have a sum of **130**



1 mark

24 A **square** number and a **prime** number have a total of 22

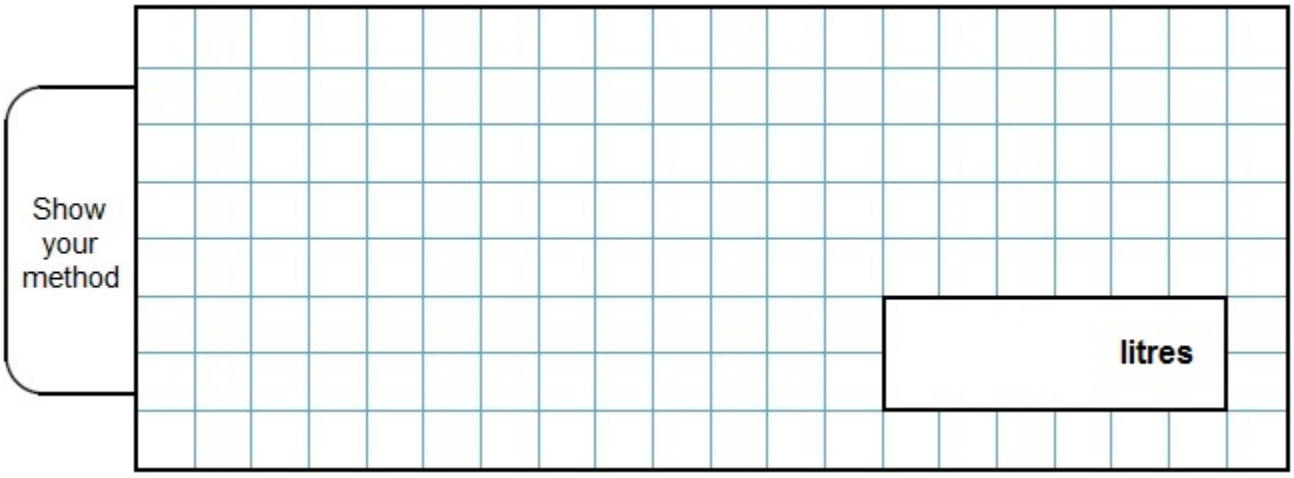
What are the two numbers?

square number prime number

1 mark

25 A machine pours 250 millilitres of juice every 4 seconds.

How many **litres** of juice does the machine pour every **minute**?



2 marks

Mark schemes

1

Award **TWO** marks for three correct numbers, as shown:

110	155	200	245	**290**	**335**

Award **ONE** mark for:

- any **TWO** numbers correctly placed

OR

- if box 1 is correct, accept correct follow-through for box 3 from the incorrect value in box 2.

Do not *accept misreads for this question.*

Up to 2m

[2]

2

(a) 11 written in the first box, as shown:

11	25	53	

1

(b) 109 written in the last box, as shown:

	25	53	**109**

1

[2]

3

Addition completed, as shown

1	2	8	+	7	2	=	2	0	0

All numbers must be correct for the award of the mark.

[1]

4

Award **TWO** marks for the correct answer of £6.87

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- £1.49 + £1.64 = £3.13
- £10 − £3.13 =

OR

- £10 − £1.49 = £8.51
- £8.51 − £1.64 =

OR

- £10 − 164p − 149p =

*Answer need not be obtained for the award of **ONE** mark.*

*Accept for **ONE** mark an answer of £687 **OR** £687p as evidence of an appropriate method.*

Up to 2 marks

[2]

5 Award **TWO** marks for the correct answer of 1,356

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 4289 + 355 = 4644
  6000 – 4644 =

OR

- 6000 – 4289 – 355 =

OR

- 6000 − 4289 = 1711
  1711 − 355 =

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2 marks

[2]

6 Three boxes completed correctly as shown:

×	7	6
9	63	54
8	56	48

[1]

7 95 × 6 **OR** 96 × 5

[1]

8

Award **TWO** marks for the correct answer of £1.39

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 12 × 99p = £11.88
  £11.88 − £10.49

*Accept for **ONE** mark an answer of £139 **OR** £139p as evidence of an appropriate method.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

9

Award **TWO** marks for the correct answer of £1.85

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- $1\frac{1}{2}$ × £1.50 = £2.25
  $\frac{1}{2}$ of £1.80 = 70p (error)
  £2.25 + 70p = £2.95
  £5 − £2.95 =

OR

- £1.50 + 75 = £2.25
  £2.25 + 90 = 415p (error)
  £5.00 − 415p =

OR

- sight of £3.15 **OR** 315p as evidence of evaluating the correct cost of the potatoes and carrots.

***Do not** accept misreads for this question.*

*Answer need not be obtained for the award of **ONE** mark.*

*Accept for **ONE** mark an answer of £185 or £185p as evidence of an appropriate method.*

Up to 2 marks

[2]

10 Award **TWO** marks for the correct answer of 75

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- 125 ÷ 50 = 2.5

  2.5 × 30 = wrong answer

OR

- 50g oats 30g raisins

  25g oats 15g raisins (÷ 2)

  125g oats wrong answer (× 5)

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

[2]

11 Award **ONE** mark for any of the following:

$\frac{7}{16} < \frac{6}{12} < \frac{5}{8}$

OR

$\frac{7}{16} < \frac{6}{12} < \frac{3}{4}$

OR

$\frac{7}{16} < \frac{5}{8} < \frac{3}{4}$

OR

$\frac{6}{12} < \frac{5}{8} < \frac{3}{4}$

Accept equivalent fractions correctly ordered, e.g:

$\frac{21}{48} < \frac{24}{48} < \frac{30}{48}$

$\frac{21}{48} < \frac{24}{48} < \frac{36}{48}$

$\frac{7}{16} < \frac{10}{16} < \frac{12}{16}$

$\frac{12}{24} < \frac{15}{24} < \frac{18}{24}$

[1]

12

Award **TWO** marks for the correct answer of $\frac{7}{12}$

*Accept equivalent fractions or an **exact** decimal equivalent, e.g.* $0.53\overline{8}$

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- $\frac{1}{4}+\frac{1}{6}=$

  $\frac{3}{12}+\frac{2}{12}=\frac{5}{12}$

  $1-\frac{5}{12}$

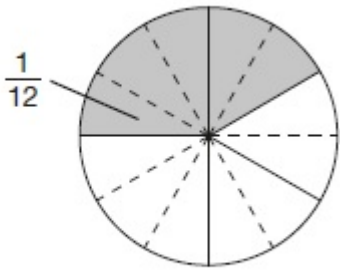
OR

- $\frac{1}{4}+\frac{1}{6}+\frac{1}{6}$

OR

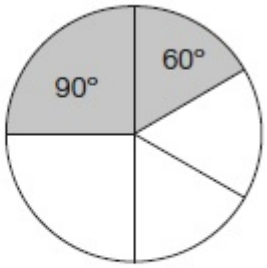
- $1-\frac{1}{4}-\frac{1}{6}$

OR

- 

$\frac{3}{12} + \frac{4}{12}$

OR

- 

$90° + 60° = 150°$

$1 - \frac{150}{360}$

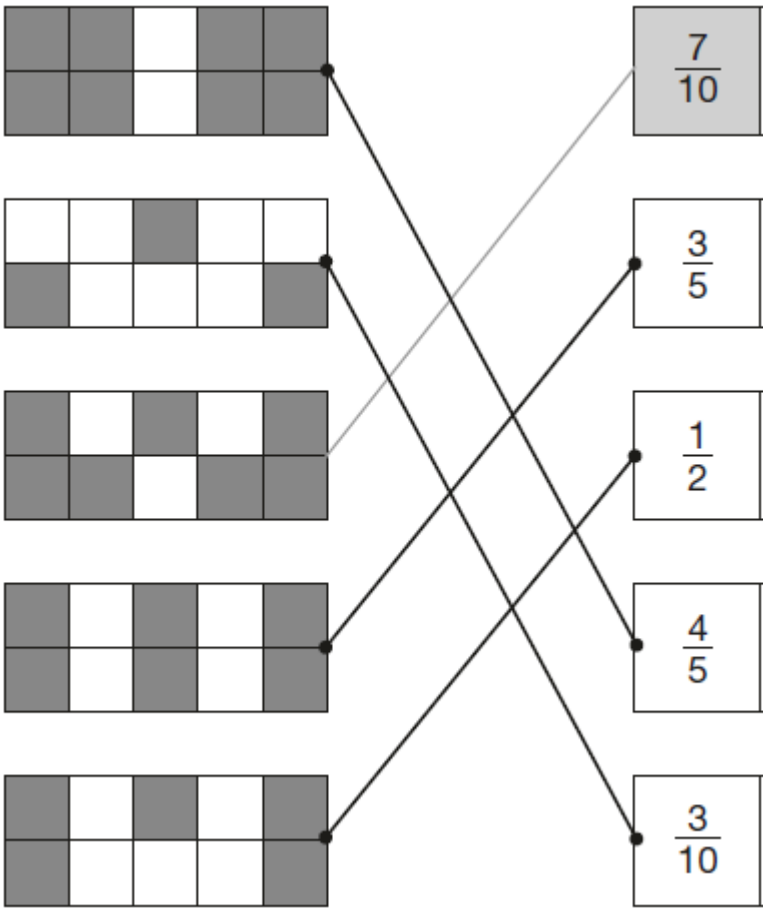
*Accept for **ONE** mark an answer between 0.58 and 0.59 inclusive.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

13 Award **TWO** marks for four shapes matched correctly as shown:



If the answer is incorrect, award **ONE** mark for three shapes matched correctly.

Lines need not touch shapes or fraction boxes, provided the intention is clear.

Do not *credit any shape that has been matched to more than one fraction.*

Up to 2

[2]

14 (a) $\frac{3}{8}$ written in the first box

1

Accept equivalent fractions or an ***exact*** *decimal equivalent, e.g. 0.375*

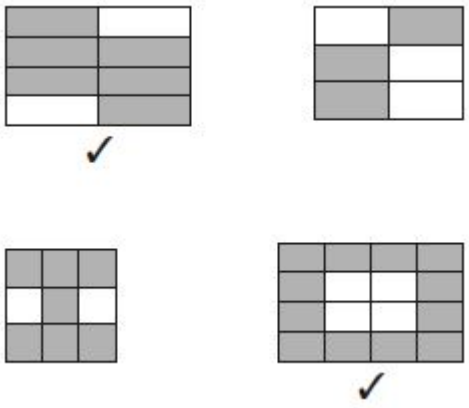
(b) $2\frac{7}{8}$ **OR** $\frac{23}{8}$ written in the last box

1

Accept equivalent fractions or an ***exact*** *decimal equivalent, e.g. 2.875*

[2]

15 Both shapes ticked as shown:



Accept alternative unambiguous positive indications, e.g. shapes circled.

[1]

16 Award **TWO** marks for four correct numbers, e.g.

	even	**not** even
a cube number	**64**	**27**
not a cube number	**4**	**5**

Award **ONE** mark for any three correct.

[2]

17 Fractions written in the correct order, as shown:

$\frac{3}{5}$ $\frac{3}{4}$ $\frac{6}{5}$

Accept the fraction joined to the correct box, rather than written in it.

***Do not** accept transcription errors or misreads for this question.*

[1]

18 Correct number circled, as shown:

$\frac{67}{8}$ $\frac{48}{8}$ $\frac{62}{8}$ $\frac{55}{8}$ $\frac{76}{8}$

Accept alternative unambiguous positive indication of the correct answer, e.g. fraction ticked.

[1]

19 125 and 27, in either order.

Accept 5^3 and 3^3

[1]

20 2^3 3^2 5^2 3^3

Accept 8, 9, 25, 27

[1]

21 **2 3 4 5 6 (7) 8 9**

[1]

22 36 **AND** 9

Numbers may be given in either order.

[1]

23 49 **AND** 81

OR

121 **AND** 9

Numbers may be given in either order.

U1

[1]

24 Both numbers correct as shown:

9	+	13	= 22
square number		prime number	

Numbers must be in the correct order.

***Do not** accept:*

3^2	+	13	= 22
square number		prime number	

[1]

25 Award **TWO** marks for the correct answer of 3.75

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- 60 ÷ 4 = 15
- 250 × 15 = 3750
- 3750 ml ÷ 1000 =

OR

- 250 ÷ 4 = 62.5 ml per second
- 62.5 × 60 = 3750
- 3750 ml ÷ 1000 =

OR

- 60 ÷ 4 = 15, so there are 15 lots of 4 seconds in 1 minute so there are 15 bottles per minute.
- There are 4 bottles in 1 litre
- 15 ÷ 4 =

*Accept for **TWO** marks, 3,750 ml for final answer in working and the answer box blank **OR** 3,750 in the answer box where the litres has been replaced with millilitres.*

*Accept for **ONE** mark 3,750 litres (l) in the answer box **OR** the final answer in working and answer box blank.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]