





Paper 07 - A

1

The pictogram below shows the number of children who liked three different types of pizza.

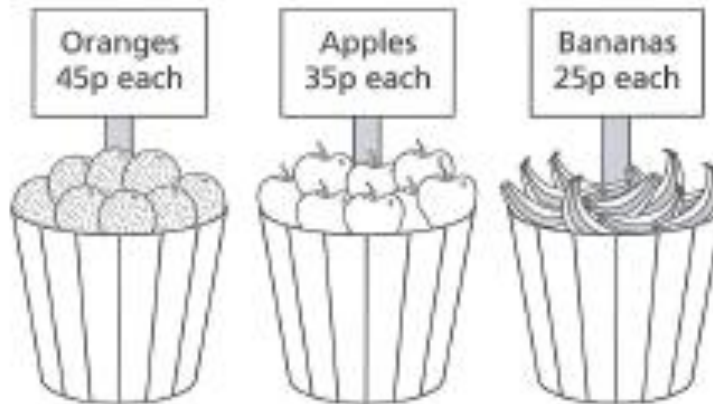
Pizza	Number of children
Tomato	
Chicken	
Vegetable	

 = 8 children

How many children liked chicken pizza?

- A  $3\frac{1}{2}$       B 4      C 18      D 28      E 32

2



Which of these costs exactly £1.50?

- A 3 oranges, 1 banana  
B 3 apples, 1 banana  
C 1 orange, 2 apples, 1 banana  
D 2 oranges, 1 apple, 1 banana  
E 1 orange, 1 apple, 2 bananas

3

Which of these statements could be true?

- A Jack's teacher is 0.17 centimetres tall.
  - B Jack's teacher is 0.17 metres tall.
  - C Jack's teacher is 1.7 centimetres tall.
  - D Jack's teacher is 1.7 metres tall.
  - E Jack's teacher is 17 centimetres tall.
- 

4

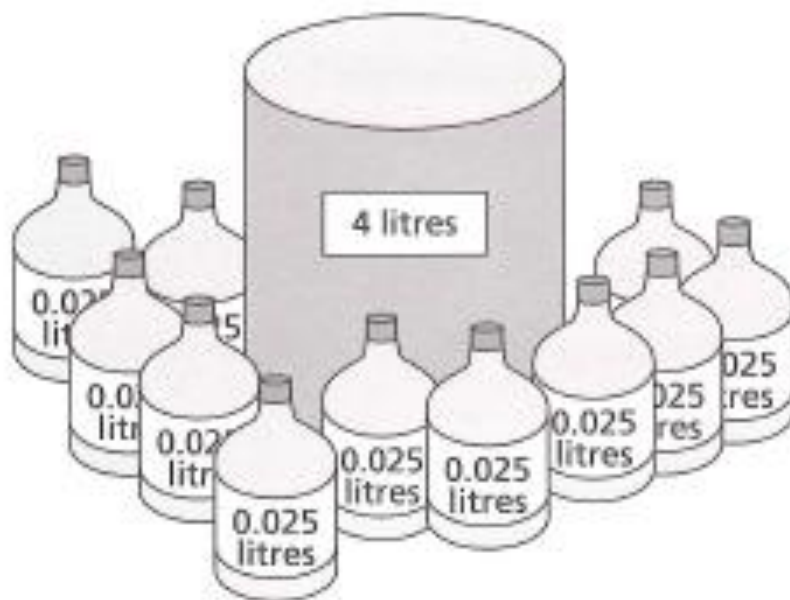
$$63 \times 324 = 20\,412$$

What is  $63 \times 648$ ?

- A 5832      B 10206      C 23328      D 32463      E 40824
- 

5

Rosie makes 4 litres of bath oil.  
She puts it into bottles that hold 0.025 litres.

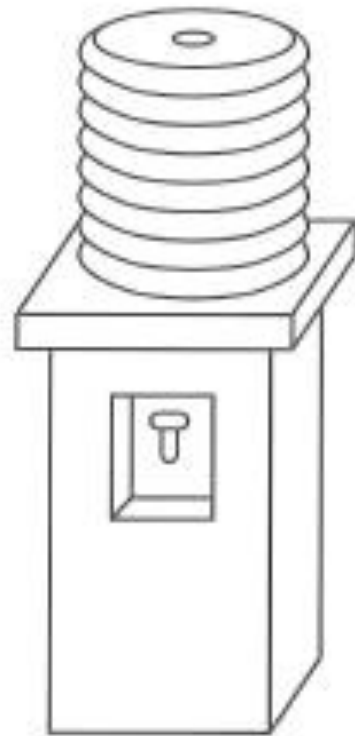


How many bottles can she fill?

- A 16      B 40      C 160      D 400      E 4000

6

A full water bottle contains 19 litres of water.  
Yu Lin puts 250 millilitres of water from the  
bottle into each of three cups.



**How much water is left in the bottle?**

- A 1.15 litres
- B 11.5 litres
- C 16.5 litres
- D 18.25 litres
- E 18.75 litres

7

One evening, Tia started her homework at half past four.  
She finished it at twenty minutes to six.

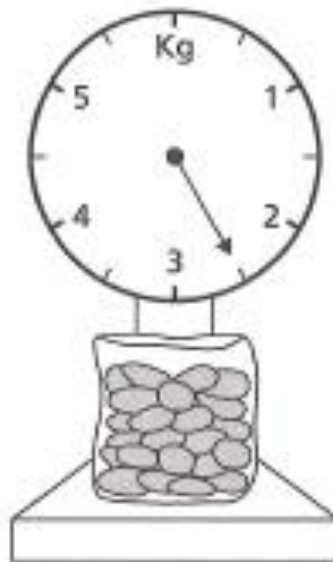
**How long did her homework take?**

- A 1 hour 10 minutes
- B 1 hour 50 minutes
- C 50 minutes
- D 1 hour 30 minutes
- E 1 hour 20 minutes

8

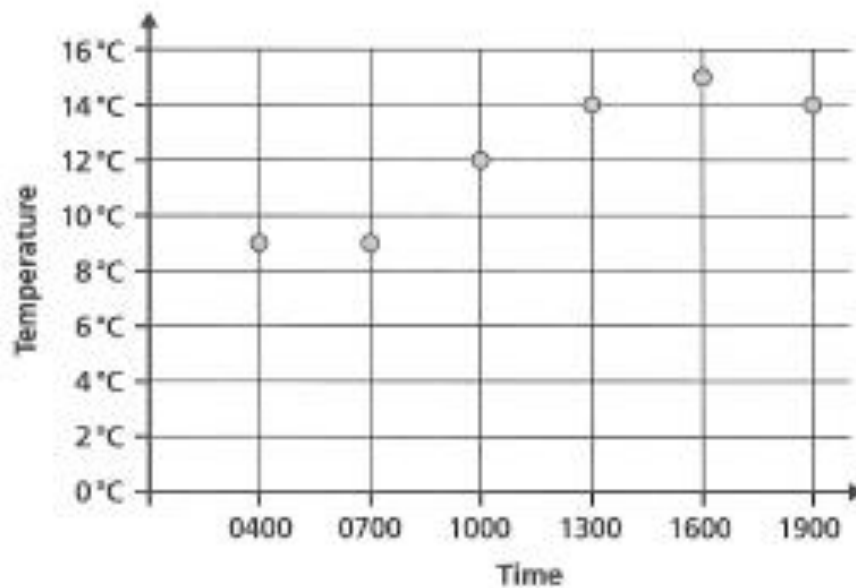
Potatoes cost £1.20 per kilogram.

What is the cost of these potatoes?



- A £2.40      B £3.00      C £2.10      D £2.50      E £2.75

9



The graph shows the temperature at different times on one day.

What is the difference between the lowest and the highest temperature?

- A 2°C      B 6°C      C 9°C      D 13°C      E 15°C

10

Which of these is the biggest number?

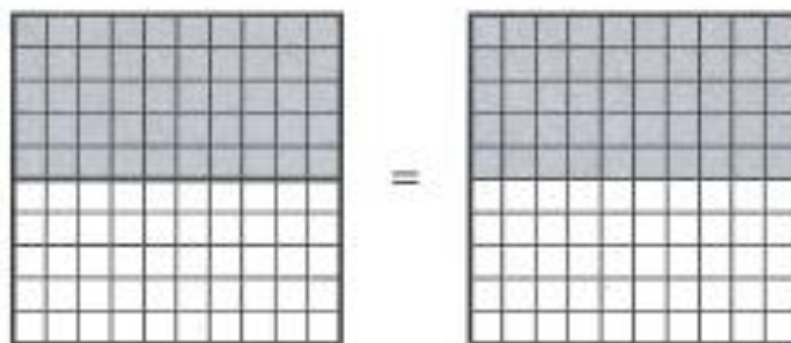
- A 0.87      B 14.27      C 25.3      D 3.69      E 4.48

11

If 1st April is a Wednesday, what day of the week will 1st May be?

- A Friday      B Saturday      C Thursday      D Sunday      E Monday

12

These diagrams show that  $\frac{1}{2} = 50\%$ .

What do these diagrams show?



- A  $\frac{1}{4} = 25\%$   
 B  $\frac{9}{20} = 45\%$   
 C  $\frac{1}{5} = 20\%$   
 D  $\frac{1}{3} = 33\frac{1}{3}\%$   
 E  $\frac{9}{25} = 36\%$

# 13

Mrs Woods ordered some school textbooks.  
She worked out her order on rough paper.  
She then began to copy the order onto the order form, as shown below.

Textbook	Price	Number required	Total price
Maths books	£5.30	10	£53.00
Science books	£6.20		?
		Postage	£1.50
		Total	£85.50

She had to pay £85.50 in total, including £1.50 for postage.

How many science books did she order?

- A 3                  B 5                  C 11                  D 12                  E 15
- 

# 14

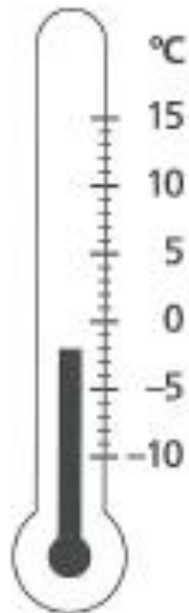
A rectangle has a perimeter of 30 cm.  
One of the shorter sides is 4 cm.

What is the length of one of the longer sides?

- A 8 cm                  B 15 cm                  C 11 cm                  D 13 cm                  E 7.5 cm
-

15

Class 6 recorded the outside temperature every morning and afternoon. On Saturday morning, Oti read the temperature.



In the afternoon, the temperature had gone up by 6°C.

**What was the temperature in the afternoon?**

- A 4°C      B 8°C      C 2°C      D 6°C      E 10°C
- 

16

Ravi divides a large number by a smaller number. The remainder is 5.

**Which of these numbers could he have divided by?**

- A 2      B 3      C 4      D 5      E 6
-

17

FLAVOURS	
Choice of the day	
1.	Vanilla
2.	Chocolate
3.	Strawberry
4.	Mint
5.	Peach
6.	Tutti Frutti

An ice cream kiosk sells cones with two scoops of ice cream. It offers a choice of six different flavours each day. The scoops may be the same flavour or different flavours.

How many different combinations of ice cream flavours does the kiosk offer each day?

- A 21      B 30      C 18      D 36      E 15

18

What is 34.96 rounded to the nearest tenth?

- A 30.0      B 34.0      C 34.95      D 34.96      E 35.0

19

Two of the angles in this parallelogram are  $60^\circ$ .



What are the other two angles?

- A  $40^\circ$       B  $90^\circ$       C  $120^\circ$       D  $150^\circ$       E  $220^\circ$



20

Ben writes a sequence of numbers. He uses the rule:

*Add up the last two numbers, and then subtract 3.*

The first five numbers in the sequence are:

6   7   10   14   21

What is the seventh number in Ben's sequence?

- A 28                      B 32                      C 35                      D 50                      E 53
- 

21

## More dogs choose Doggo Biscuits

In an independent experiment nearly one in five dogs chose Doggo Biscuits, but only 25% chose the next favourite biscuit.

This advertisement is misleading.

Why?

- A According to the figures in the advertisement, fewer dogs chose Doggo Biscuits than the next favourite biscuit.
- B The experiment cannot have been independent.
- C The dogs in the experiment were all more used to Doggo Biscuits than to other sorts of biscuits.
- D It does not say what the other dogs did.
- E The dogs might change their minds next time.

22

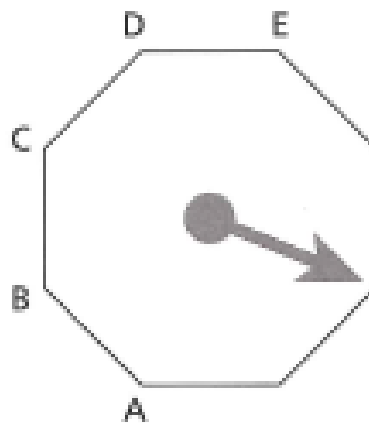
A crate contains 48 tins of beans and the total mass is 24.8 kilograms.  
The empty crate has a mass of 800 grams.

What is the mass of one tin of beans?

- A 400 g      B 500 g      C 600 g      D 700 g      E 800 g
- 

23

The arrow is pointing towards one corner of this regular octagon.



If the arrow turns clockwise through  $225^\circ$ , to which corner will it be pointing?

- A A      B B      C C      D D      E E
-

24

A swimming pool charges £5 for entry.

You can save  $\frac{1}{5}$  of the entry fee with a membership card.

Briony buys a membership card, which costs £6.50.

After how many visits will she have saved the cost of the card?

A 5

B 4

C 6

D 3

E 7

---

25

A regular polygon has an interior angle of  $120^\circ$ .

What is the name of this polygon?

A equilateral triangle

B octagon

C decagon

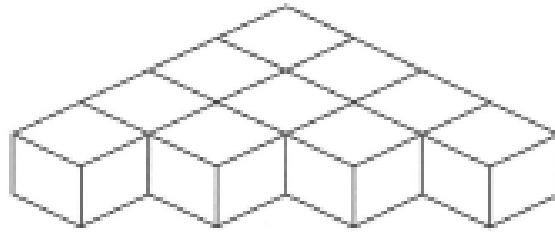
D hexagon

E pentagon

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27

This solid is made from ten small wooden cubes.



The whole solid is painted red.

How many of the small cubes have only two faces painted red?

- A 1                      B 2                      C 3                      D 4                      E 5
- 

28

A number is first squared, then divided by 10.  
The answer is 1.6.

What is the number?

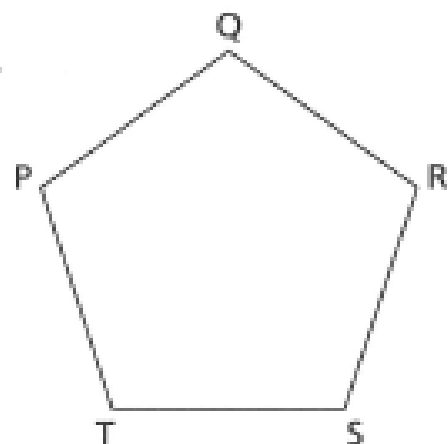
- A 4                      B 8                      C 12                      D 16                      E 20
- 

29

Ameena has drawn a regular pentagon.  
She joins P to R and P to S with straight lines.  
This divides the shape into three triangles.

What sort of triangles are they?

- A 2 isosceles and 1 equilateral  
B 2 equilateral and 1 isosceles  
C 3 isosceles  
D 2 scalene and 1 equilateral  
E 2 isosceles and 1 scalene



30

Ruby and Hamal each have a packet of biscuits. The two packets contain the same number of biscuits.

Ruby gives half of her biscuits to Mike.

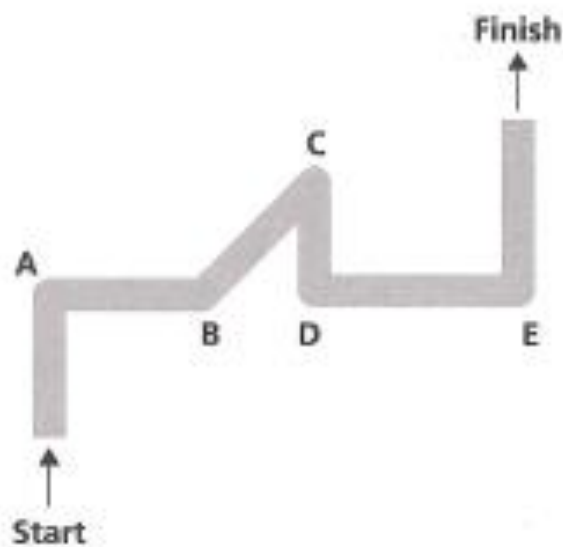
Hamal gives a quarter of his biscuits to Mike.

Which of these statements is now true?

- A Ruby has more biscuits than Mike.
  - B Hamal has more biscuits than Mike.
  - C Ruby and Hamal each have the same number of biscuits.
  - D Ruby and Mike each have the same number of biscuits.
  - E Hamal and Mike each have the same number of biscuits.
- 

31

A robot moves along this path from Start to Finish.



At what point does the robot turn through more than a right angle?

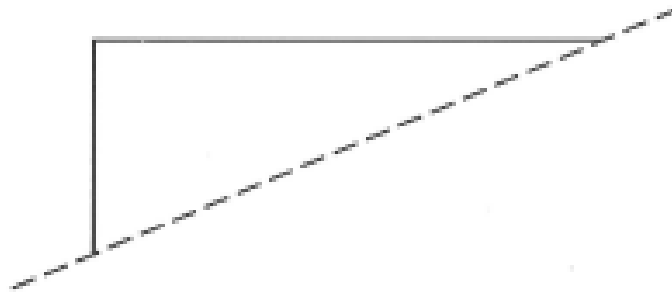
- A A                  B B                  C C                  D D                  E E
-

32

Which of these sums gives the largest answer?

- A  $17 \times 18 + 16 - 15$
- B  $18 \times 17 + 15 - 16$
- C  $15 \times 16 + 17 - 18$
- D  $17 \times 16 + 18 - 15$
- E  $15 \times 17 + 18 - 16$

33



Rory is drawing a quadrilateral.  
The diagram shows two of its sides.  
The dotted line is a line of symmetry.

Which quadrilateral is Rory drawing?

- A trapezium
- B rectangle
- C kite
- D parallelogram
- E rhombus

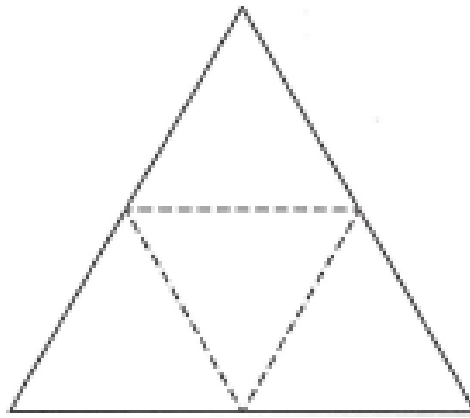
34

Kumi buys four mugs of tea.  
He pays with a £5 note and gets £1.60 change.

What is the cost of one mug of tea?

- A 40p
- B £3.40
- C 85p
- D £1.25
- E £1.10

35



This net is cut out of cardboard.  
It is folded along the dashed lines.

**Which 3D shape will it make?**

- A triangular prism
- B square-based pyramid
- C cuboid
- D triangular pyramid
- E none of these

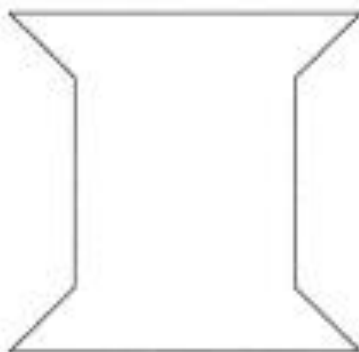
36

A recipe needs 500 g of flour and 150 ml of milk.  
Mr Price only has 400 g of flour.

**How much milk should he use?**

- A 100 ml
- B 50 ml
- C 120 ml
- D 30 ml
- E 180 ml

37



This shape can be made by putting other shapes together.

Which combination could NOT make this shape?

- A 2 quadrilaterals
- B 4 triangles
- C 2 hexagons
- D 1 square and 2 trapeziums
- E 2 pentagons

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38

Yola started at 0 and counted up in steps of  $1\frac{1}{4}$ .  
She wrote down her sequence of numbers.

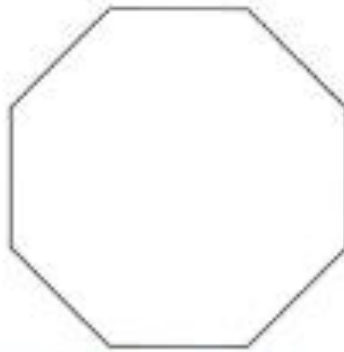
Which of these numbers was in her sequence?

- A 1                      B 2                      C 3                      D 4                      E 5
-



39

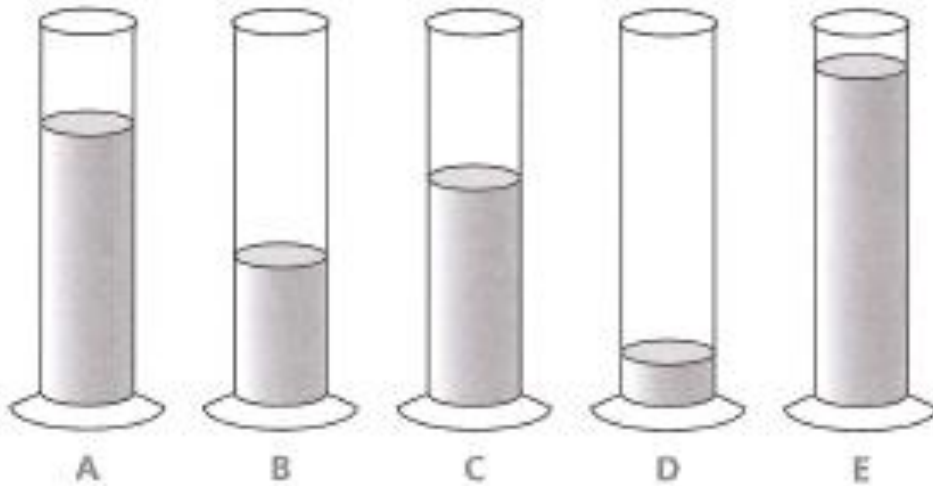
Jackie draws two lines in this regular octagon to divide it into four quadrilaterals that are all the same size and shape.



What kind of quadrilateral are they?

- A kites
- B rectangles
- C parallelograms
- D squares
- E trapeziums

40



A container can hold 1 litre of liquid.  
Kieran had put 75 ml of water in it.

Which diagram best shows the correct water level?

- A A
- B B
- C C
- D D
- E E

41

Susan knows that one of these is equal to one million.

- A number of millimetres in a metre
- B number of milligrams in a kilogram
- C number of square centimetres in a square metre
- D number of seconds in 100 hours
- E number of pennies in £1000

Which one is it?

A A

B B

C C

D D

E E

---

42

For a fan oven, cooking times are reduced by one-sixth of the time needed in an ordinary oven.

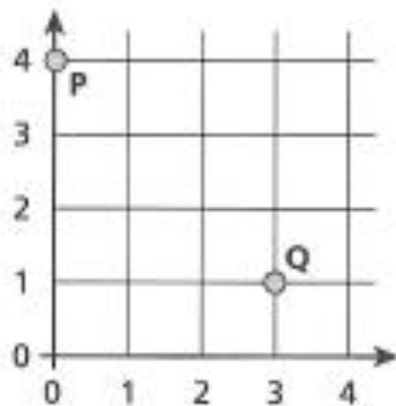
A fruit cake takes  $2\frac{3}{4}$  hours to cook in an ordinary oven.

How long would it take in a fan oven, to the nearest minute?

- A 2 hours 4 minutes
  - B 2 hours 20 minutes
  - C 2 hours 15 minutes
  - D 2 hours 18 minutes
  - E 2 hours 14 minutes
-

43

Points P and Q are two corners of a square.



Which of these pairs of coordinates could mark the other two corners of the square?

- A (0, 1) and (3, 4)
- B (1, 0) and (4, 3)
- C (3, 4) and (1, 0)
- D (4, 3) and (0, 1)
- E (3, 4) and (1, 1)

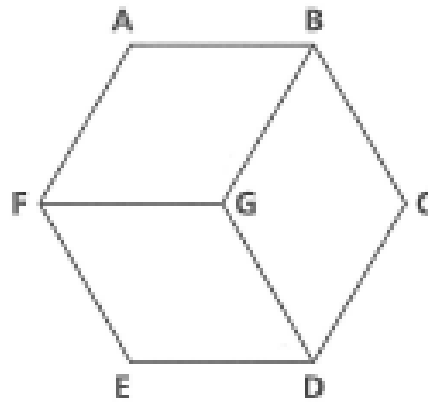
44

There are 27 children in a club.

Which of these statements CANNOT be true?

- A There are more boys than girls in the club.
- B There are more girls than boys in the club.
- C There are three more boys than girls in the club.
- D There are six more girls than boys in the club.
- E There are nine more boys than girls in the club.

45



G is the middle of this regular hexagon.  
AB and FG form one pair of parallel lines.

**How many pairs of parallel lines are there altogether in the diagram?**

- A** 4                      **B** 9                      **C** 3                      **D** 6                      **E** 12
- 

46

Farmer Dunphy has 15 metres of fencing.  
He wants to make a closed rectangular pen.  
He uses a long wall for one of the sides.  
Each side of the pen is a whole number in metres.

**What is the largest area that the pen can be?**

- A** 25 m<sup>2</sup>              **B** 27 m<sup>2</sup>              **C** 30 m<sup>2</sup>              **D** 28 m<sup>2</sup>              **E** 22 m<sup>2</sup>
- 

47

Mr Robinson wants to paint both sides of his garden fence.  
The fence is 20 metres long and 1.4 metres high.  
1 litre of paint will cover 10 square metres of fence.

**How many 1-litre tins of paint must he buy?**

- A** 3 tins              **B** 4 tins              **C** 5 tins              **D** 6 tins              **E** 7 tins

48

A 2p coin measures 2.5 cm across.  
 A line of 2p coins was created.  
 Each coin touched the coins on either side.  
 The total value of the coins was donated to charity.  
 The amount of money collected was £12.

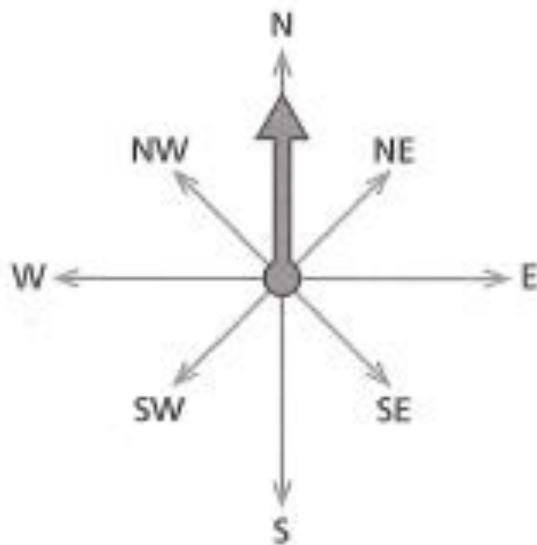


How long was the line, in metres?

- A 3 m      B 15 m      C 30 m      D 150 m      E 300 m

49

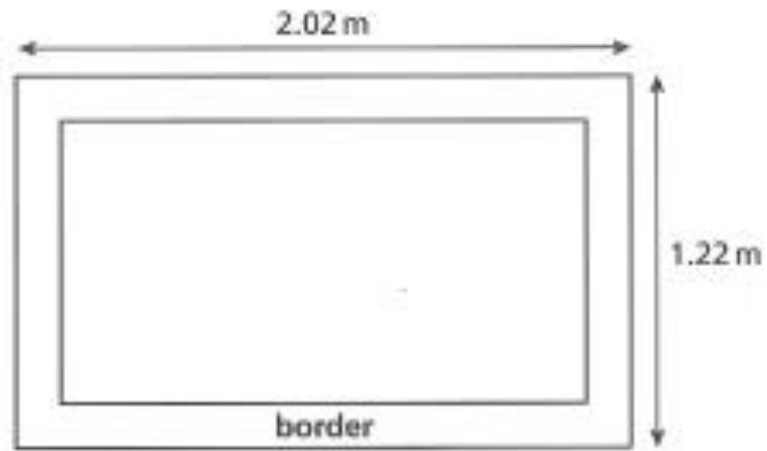
The pointer turns clockwise from north to south-east.



What angle does it turn through?

- A  $135^\circ$       B  $180^\circ$       C  $150^\circ$       D  $165^\circ$       E  $120^\circ$

50



A special shape is 2.02 m long and 1.22 m wide.  
A double row of tiles makes a border.  
Each tile is 2 cm by 2 cm.

How many tiles are needed to make the border?

- A 648      B 624      C 632      D 640      E 636

## Paper 08 - A

1

50 45 35 30 20 15 5 \_\_\_\_\_

The number pattern shown above is extended by three numbers.

What is the smallest missing number?

A -20

B -25

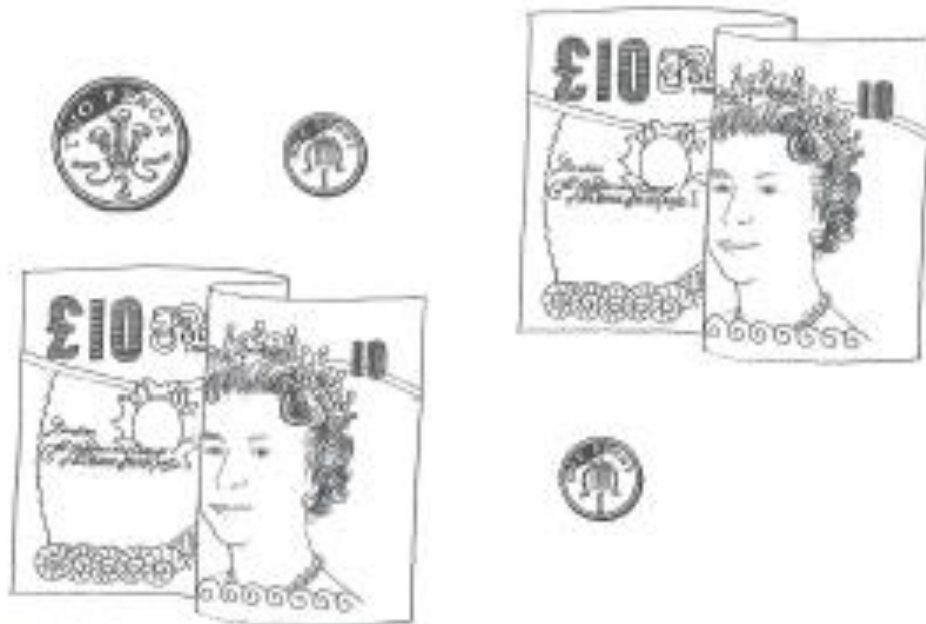
C -5

D -10

E -15

2

Amrit has this money:



What is the total value of the money he has?

A £2.4

B £2.04

C £20.04

D £2.40

E £20.4

3

A packet of sprouts has these instructions for cooking them in a microwave oven.

	650 watt Category B	750 watt Category D	850 watt Category E
<b>Cook on full power</b>	8 mins	6 mins	4 mins
<b>Stand</b>	1 min	1 min	1 min

Alex has a Category D microwave oven.

How long will it take him to cook the sprouts and leave them to stand?

- A 4 minutes
- B 5 minutes
- C 6 minutes
- D 7 minutes
- E 8 minutes

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4

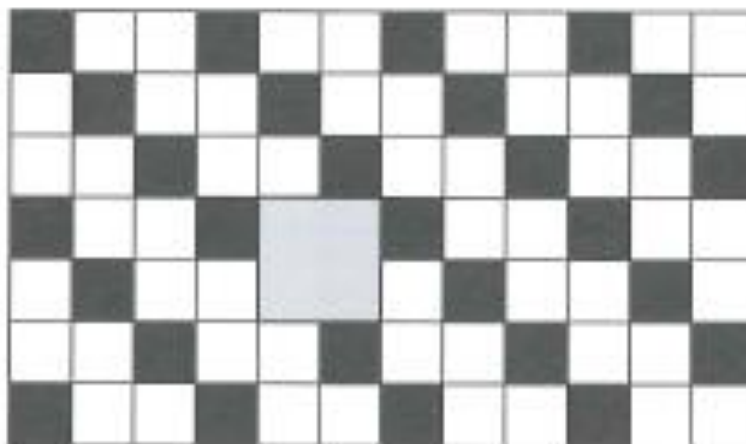
How many twelfths are there in 3?

- A 3                      B 4                      C 9                      D 12                      E 36
-



5

This pattern is made with black and white tiles.



There is a gap where some of the tiles are missing.

Which of these is the missing set of tiles?



6

Menu	
Jacket potato + filling	£3.75
Soup + roll & butter	£3.20
Quiche + chips	£6.00
Drinks	£1.00

A family chooses from the menu: 2 jacket potatoes, 3 soups and 3 drinks.  
They pay with a £50 note.

How much change should they receive?

- A £20.10      B £29.90      C £28.90      D £21.10      E £27.90

7

Look at this sorting diagram.

	Sides equal	Sides not equal
At least one right angle		
No right angles		

Which of these shapes should go in the shaded cell on the sorting diagram?



8

36 12 48 24 60

Which factor below does not go exactly into all of the numbers above?

A 6

B 4

C 3

D 2

E 8

9



How much do these potatoes weigh?

- A two thousand and five kilograms
- B two and a half kilograms
- C two kilograms and five hundred grams
- D two kilograms and fifty grams
- E two kilograms and five grams

10

Which of these gives the answer 1200?

- A 1149 rounded to the nearest 100
- B 1196 rounded to the nearest 10
- C 1207 rounded to the nearest 10
- D 1274 rounded to the nearest 100
- E 12327 rounded to the nearest 100

11

A plant catalogue offers the following plants for sale.

Plant	Height when fully grown	Price
Aster	1.5 metres	1 for £4.99 3 for £12.00
Foxglove	1 metre	1 for £4.99 3 for £12.00
Geranium	30 centimetres	1 for £5.99 3 for £15.00
Helenium	1 metre	1 for £4.99 3 for £12.00
Iris	1 metre	1 for £5.99 3 for £15.00

Which two kinds of plant have the same price and will grow to the same height?

- A aster and geranium
- B aster and helenium
- C foxglove and helenium
- D foxglove and iris
- E geranium and iris

12

Duncan has 20 biscuits.  
Together, they weigh 300 grams.  
Duncan eats three of the biscuits.

How many grams of biscuits does Duncan eat?

- A 30g
- B 35g
- C 40g
- D 45g
- E 50g

Ben has a lot of regular six-pointed stars.



The edges of the stars are 3 centimetres long.  
He fits six of the stars together to make this pattern.



What is the perimeter of the hole in the middle of Ben's pattern?

- A 9 cm
- B 12 cm
- C 45 cm
- D 54 cm
- E 72 cm

# 14

Sandwiches cost £1.75 each.

What is the greatest number of sandwiches that Alisha can buy with £5?

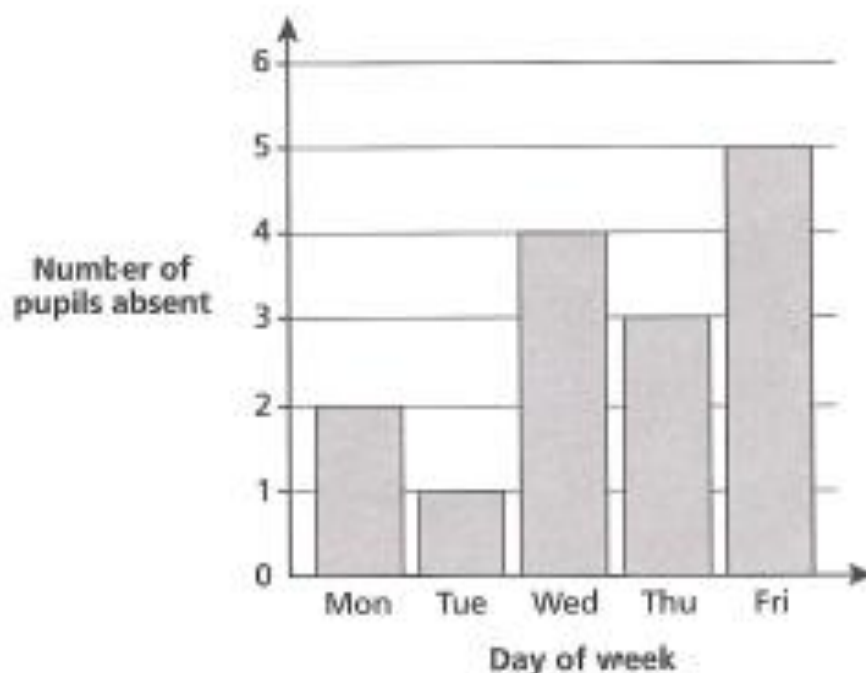
- A 2                      B 3                      C 4                      D 5                      E 6
- 

# 15

There are 32 pupils in Class 5T.

Mrs Stephenson checked class attendance across one week.

The bar chart shows the number of pupils who were absent each day.

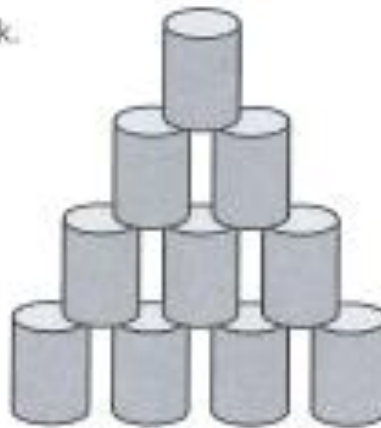


What was the greatest number of pupils present on any one day?

- A 31                      B 5                      C 27                      D 1                      E 32
-

16

There are 10 cans in this stack.  
The stack is 4 cans high.

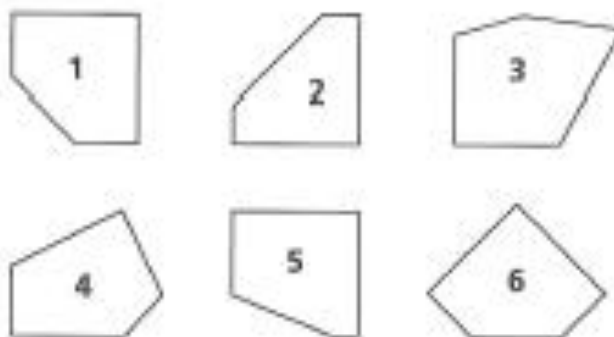


How many cans would there be in a stack like this that was 8 cans high?

- A 15      B 18      C 20      D 28      E 36

17

Look at the six pentagons below.



Which two of the pentagons are exactly the same shape?

- A 2 and 1      B 1 and 6      C 2 and 5      D 4 and 3      E 6 and 5

18

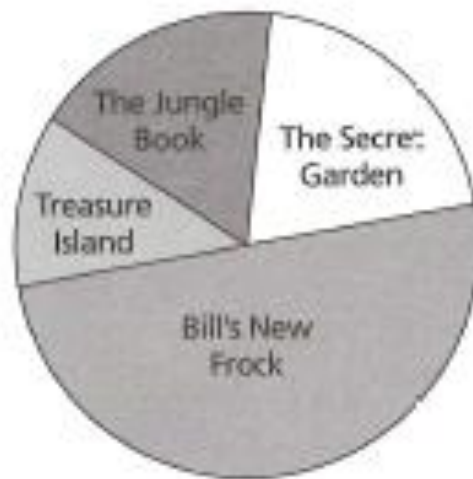
The original price of a coat was £81.  
During a sale, the price of the coat was reduced by £9 each week.

After how many weeks would the price of the coat be less than half of the original price?

- A 5      B 7      C 9      D 11      E 13

19

Each pupil in a reading club reads one of four books.  
The chart shows the proportion of pupils who read each book.



24 pupils read *Bill's New Frock*.

How many pupils are in the reading club?

- A 24      B 48      C 50      D 100      E 180

20

Marcus multiplies a number by 96, then divides the answer by 4.  
Sanjit does a different calculation, which has the same result.

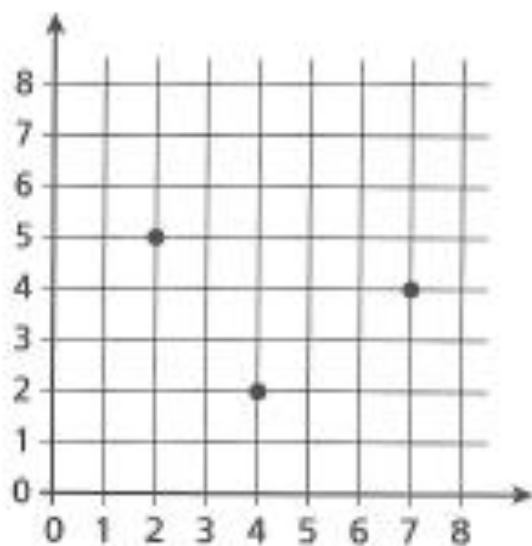
Which of these could be Sanjit's calculation?

- A Multiply the number by 4, then multiply the answer by 8.  
B Multiply the number by 52, then divide the answer by 2.  
C Multiply the number by 8, then multiply the answer by 3.  
D Multiply the number by 155, then divide the answer by 5.  
E Multiply the number by 21, then multiply the answer by 3.



21

The diagram below shows three corners of a square.



What are the coordinates of the fourth corner?

- A (4, 7)      B (7, 4)      C (5, 5)      D (5, 7)      E (7, 5)
- 

22

Karen counts backwards from 24 in steps of 7.

Which of these numbers will she reach?

- A 1      B 2      C 3      D 4      E 5
-

23

This table shows the results of a maths test.

Test result	Frequency
0–10	3
11–20	6
21–30	15
31–40	9
41–50	12

Which one of these statements is true?

- A 43 children were tested altogether.
- B 10 children scored less than 21.
- C Less than half of the children scored more than 20.
- D 24 children scored between 11 and 40.
- E A third of the children scored between 21 and 30.

24



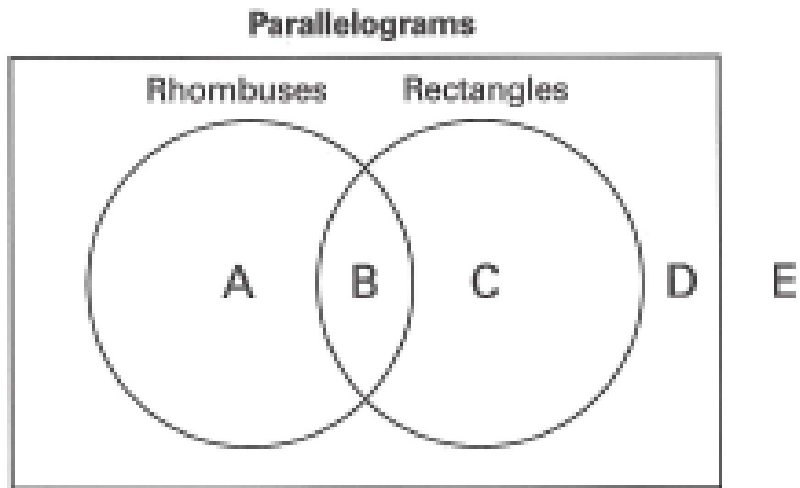
Joshua has four identical equilateral triangles.  
He fits them all together to make a solid quadrilateral.

Which quadrilateral does he make?

- A square
- B kite
- C parallelogram
- D rectangle
- E trapezium

25

To which of these areas (A, B, C, D, E) does a square belong?



A A

B B

C C

D D

E E

Paper 08 - B

26

Gemma swims nine lengths of a swimming pool.  
She swims 160 metres altogether.

What is the length of the pool, to the nearest whole metre?

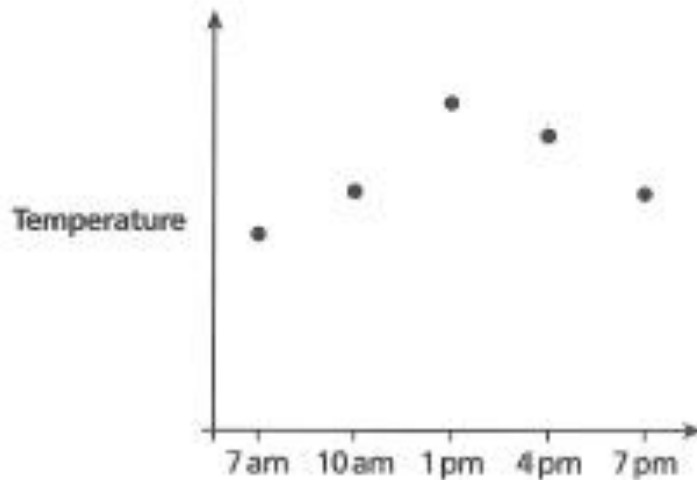
- A 7 m      B 8 m      C 17 m      D 18 m      E 20 m

27

Lily recorded the temperature at different times of the day for five days.  
The table shows her results.

		Day				
		Monday	Tuesday	Wednesday	Thursday	Friday
Time	7 am	11°	14°	12°	9°	8°
	10 am	13°	16°	14°	10°	10°
	1 pm	14°	17°	17°	11°	13°
	4 pm	15°	19°	18°	14°	12°
	7 pm	14°	16°	16°	12°	10°

Lily plotted the results for one day on a graph. She forgot to label the vertical axis of her graph.



Which day's results did Lily plot?

- A Monday      D Thursday  
B Tuesday      E Friday  
C Wednesday

28

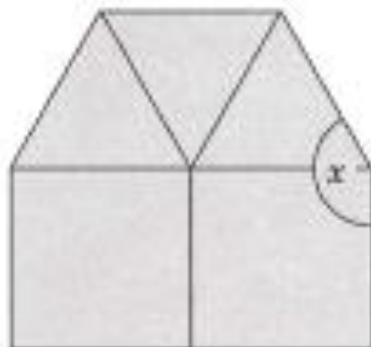
Nazir is thinking of a number.  
He divides his number by 15, and the answer is a whole number.

Which of these could be Nazir's number?

- A 500      B 505      C 510      D 515      E 520

29

Pat made this shape with squares and equilateral triangles.



What is angle  $x$  in Pat's shape?

- A  $150^\circ$       B  $120^\circ$       C  $90^\circ$       D  $135^\circ$       E  $165^\circ$

30

Some pupils sold cups of tea at the school fair.  
Each cup of tea cost 20p to make.  
The pupils sold the cups of tea for 80p each.  
They sold 298 cups of tea.

How much profit did the pupils make, after they had paid for the cost of making the cups of tea?

- A £174.04  
B £177.02  
C £177.40  
D £178.80  
E £179.40

31



What fraction of the yoghurt is fruit?

- A  $\frac{1}{3}$       B  $\frac{1}{4}$       C  $\frac{1}{5}$       D  $\frac{1}{6}$       E  $\frac{1}{8}$
- 

32

What is  $270 + (50 \times 1.8)$ ?

- A 3      B 9.72      C 30      D 33      E 97.2
- 

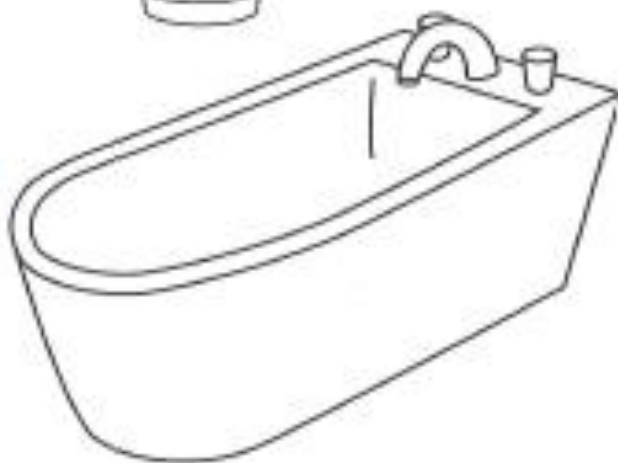
33



Mrs Shaw has 175 ml of liquid.  
She needs a container for it.

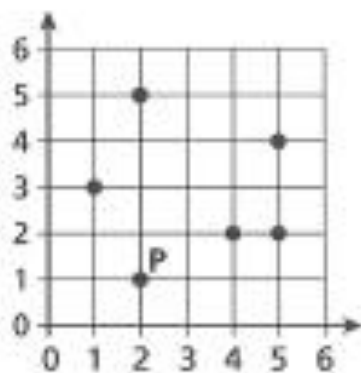
Which one suits her needs best?

- A mug  
B egg cup  
C large saucepan  
D bucket  
E bath



34

The point P is one corner of a right-angled triangle.

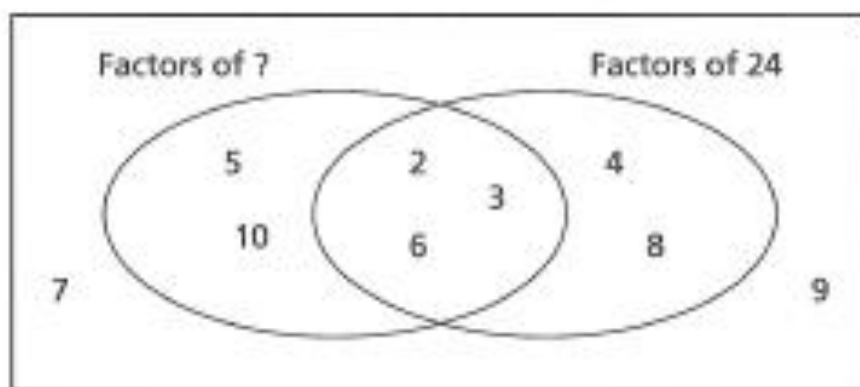


Which of these pairs of points could be the other two corners of the right-angled triangle?

- A (5, 2) and (2, 5)
- B (2, 5) and (4, 2)
- C (5, 2) and (1, 3)
- D (5, 4) and (5, 2)
- E (1, 3) and (4, 2)

35

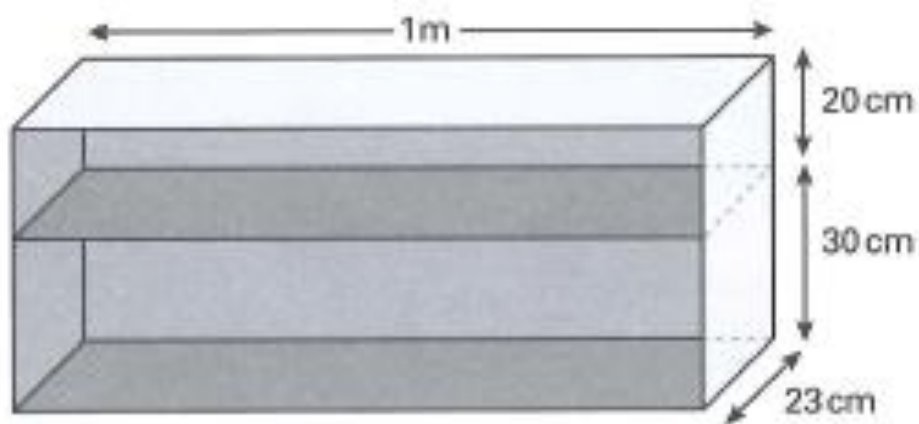
Look at the numbers sorted on this Venn diagram.



What is the missing number in the first label?

- A 10
- B 12
- C 15
- D 20
- E 30

36



The diagram shows a wooden bookcase with a base, one shelf and a top. It is open at the front and has wood at the back and sides.

What is the total area of wood needed for the bookcase?

- A  $1.92 \text{ m}^2$     B  $0.925 \text{ m}^2$     C  $1.42 \text{ m}^2$     D  $1.19 \text{ m}^2$     E  $0.97 \text{ m}^2$

37

The kitchen clock says 4 o'clock.

What is the obtuse angle between the clock hands?

- A  $33^\circ$     B  $40^\circ$     C  $90^\circ$     D  $120^\circ$     E  $150^\circ$

38

Round 32.47 kilometres to the nearest 100 metres.

- A 30km    B 32 km    C 32.3 km    D 31.5 km    E 32.5 km

39

How many different lines can be drawn between the vertices (corners) of a regular hexagon?

- A 5    B 18    C 6    D 8    E 9

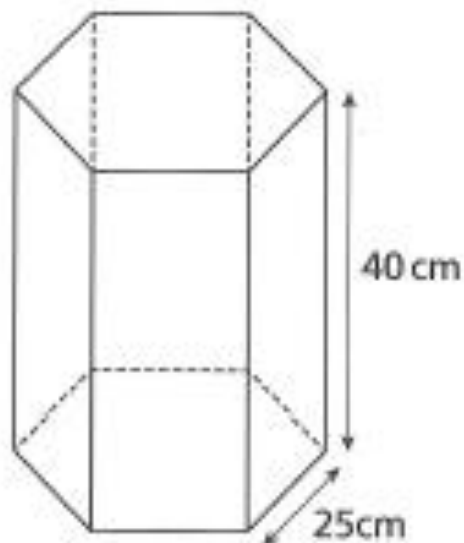


40

Which one of these is the greatest?

- A  $\frac{3}{4}$  of 40
- B 25% of 30
- C  $\frac{2}{3}$  of 15
- D 75% of 10
- E  $\frac{1}{2}$  of 25

41



The diagram shows a glass tank.  
The base is a regular hexagon.  
The sides are rectangles.

What area of glass is needed to make all six of the sides?

- A  $540 \text{ cm}^2$
- B  $780 \text{ cm}^2$
- C  $3000 \text{ cm}^2$
- D  $6000 \text{ cm}^2$
- E  $12000 \text{ cm}^2$

42

Zonia's rabbit weighs 3 kilograms.  
She buys a bag of rabbit food pellets weighing 3.6 kilograms.  
The information on the bag of rabbit food says:



About how many weeks should the bag of rabbit food last?

- A about one week
- B about two weeks
- C about three weeks
- D about four weeks
- E about five weeks

43

In an election, 25 085 978 people voted.  
One party received 2 248 226 votes.

Which is closest to the percentage of people who voted for this party?

- A 12%
- B 80%
- C 1%
- D 9%
- E 5%

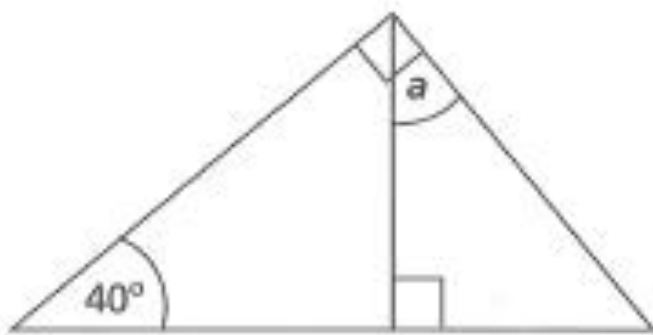
44

Anna and Ricardo won some money. They shared it equally. They each got £12.  
Carla, David, Ella and Fran won three times as much money as Anna and Ricardo.  
They shared it equally.

How much did each person get?

- A £18.00
- B £6.00
- C £8.00
- D £4.00
- E £9.00

45



What is the value of angle  $a$  in the diagram above?

- A  $35^\circ$       B  $40^\circ$       C  $60^\circ$       D  $50^\circ$       E  $45^\circ$

46

John and Ali start counting on from 0.  
They each count on in steps of a different size.  
The first number that John and Ali both reach is 120.

What size steps could they have been counting in?

- A 10 and 12      B 11 and 13      C 9 and 14      D 8 and 15      E 6 and 20

47

Hayley has drawn a kite.

Which property **MUST** the drawing have?

- A Opposite sides are parallel.  
B The diagonals are equal in length.  
C The shape has two lines of symmetry.  
D The diagonals intersect at right angles.  
E All angles are equal.

48

Mr Firat needs to buy posts and panels for a new fence of length 8.5 metres. The panels are 2 metres wide. The posts are 10 centimetres wide. There are posts between all of the panels, and one at each end of the fence.

How many posts and panels should Mr Firat buy?

- A 4 panels and 4 posts
- B 4 panels and 5 posts
- C 5 panels and 5 posts
- D 5 panels and 6 posts
- E 6 panels and 6 posts

49

A flea has a height of 2 mm. It can jump to a height 80 times its own height.

To what height, in centimetres, can the flea jump?

- A 16 cm      B 1.6 cm      C 0.16 cm      D 160 cm      E 0.016 cm

50

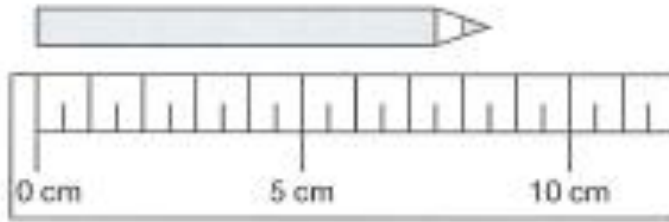
One day on the planet Uranus lasts 17.24 hours.

What is 17.24 hours in hours, minutes and seconds?

- A 17 hours, 14 minutes, 4 seconds.
- B 17 hours, 20 minutes, 4 seconds.
- C 17 hours, 14 minutes, 40 seconds.
- D 17 hours, 20 minutes, 40 seconds.
- E 17 hours, 14 minutes, 24 seconds.

Paper 09 - A

1



How long is this pencil?

- A 7.5 cm    B 8 cm    C 8.5 cm    D 9 cm    E 9.5 cm

2

What is 3672 rounded to the nearest hundred?

- A 4000    B 3000    C 3700    D 3600    E 3670

3

This is part of a screen showing the weather recorded over 24 hours in May.

Time	Weather	Temp
01:00		13°C
04:00		13°C
07:00		14°C
10:00		18°C
13:00		20°C
16:00		22°C

In which three-hour period did the temperature rise the most?

- A 01:00 – 04:00  
B 04:00 – 07:00  
C 07:00 – 10:00  
D 10:00 – 13:00  
E 13:00 – 16:00

4

Rory had 150 stickers.  
He divided them into eight piles, with the same number in each pile.

What fraction of the stickers was left over?

- A  $\frac{1}{50}$       B  $\frac{1}{25}$       C  $\frac{3}{75}$       D  $\frac{3}{50}$       E  $\frac{1}{75}$
- 

5

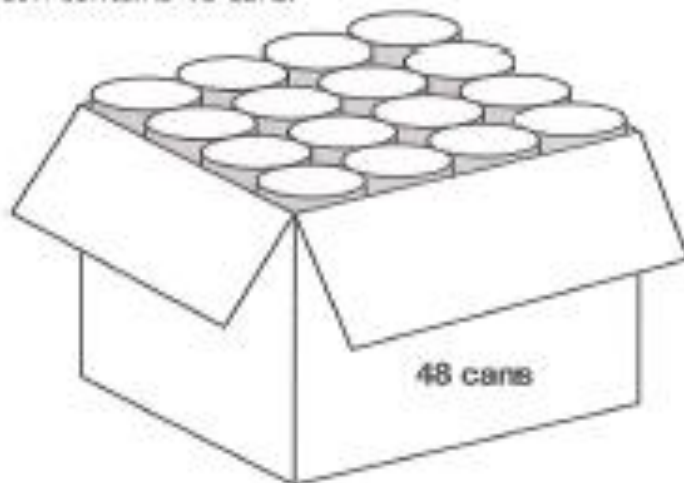
Fordbridge has three schools.  
There are 1248 pupils at Wayford School, 719 at River Road School and 991 at Dunton School.

How many pupils are there in Fordbridge altogether?

- A 2958      B 2848      C 2969      D 2968      E 2858
- 

6

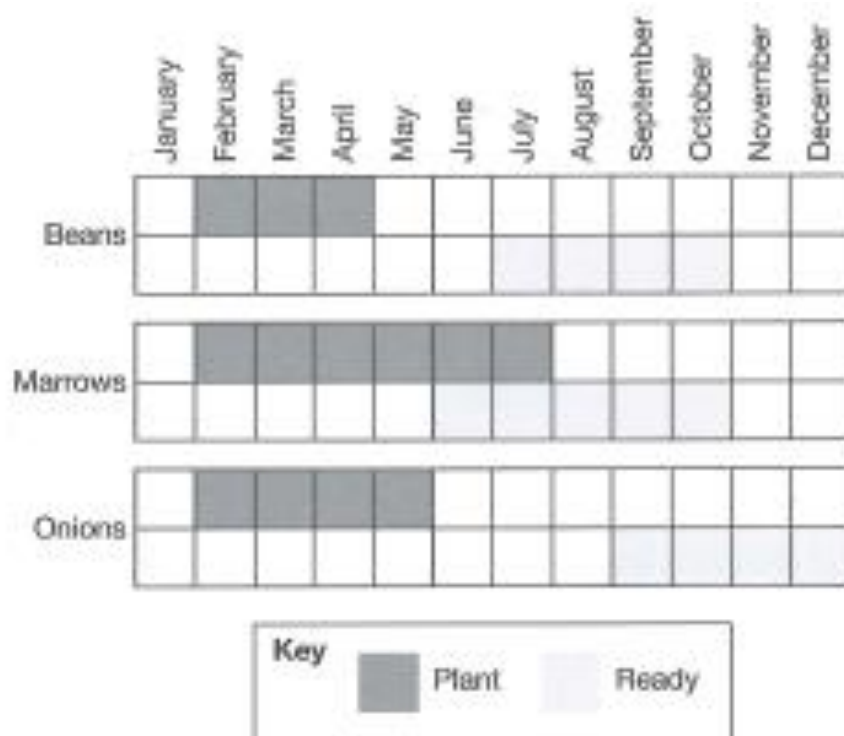
This carton contains 48 cans.



How many layers of cans does it contain?

- A 1      B 2      C 3      D 4      E 5

7



The chart shows when you can plant some different types of vegetable and when they will be ready to eat.

Which is the last month when you can plant all three types of vegetable?

- A February      B April      C July      D September      E October

8

The 10 000 m race is 25 laps of a 400 m track.  
Kirsty came second in the race.

How many kilometres did she run?

- A 1 km      B 100 km      C 25 km      D 10 km      E 12.5 km

9

Look at this sequence:

2    6    12    20    \_\_\_\_\_

What is the 6th number in this sequence?

- A 28      B 30      C 38      D 40      E 42

10

Four books are piled on top of each other.  
Their spines are 4 cm, 5.1 cm, 2.3 cm and 1.9 cm thick.

How high is the pile of books?

- A 9.7 cm      B 13.3 cm      C 12.13 cm      D 11.4 cm      E 12.3 cm

11

Five swimmers were tested on strength, co-ordination, stamina and speed at the beginning and end of a course.  
The table below shows their results.

	Strength		Co-ordination		Stamina		Speed		Overall Change
	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2	
Amina	1	4	3	2	4	5	4	4	+3
Baljit	2	3	3	5	1	2	2	4	+6
Caryl	3	3	4	3	2	4	2	3	+2
Dylan	3	3	2	3	1	4	4	3	+3
Elliot	4	3	5	5	3	5	4	4	+1

**Key:**

- 5 points = Excellent  
4 points = Good  
3 points = Competent  
2 points = Poor  
1 point = Very Poor

Which swimmer improved by the greatest number of points for stamina?

- A Amina  
B Baljit  
C Caryl  
D Dylan  
E Elliot



12

$$64.64 - 6.46 + 0.64 = \underline{\hspace{2cm}}$$

- A 57.54      B 58.92      C 58.82      D 58.72      E 58.64
- 

13

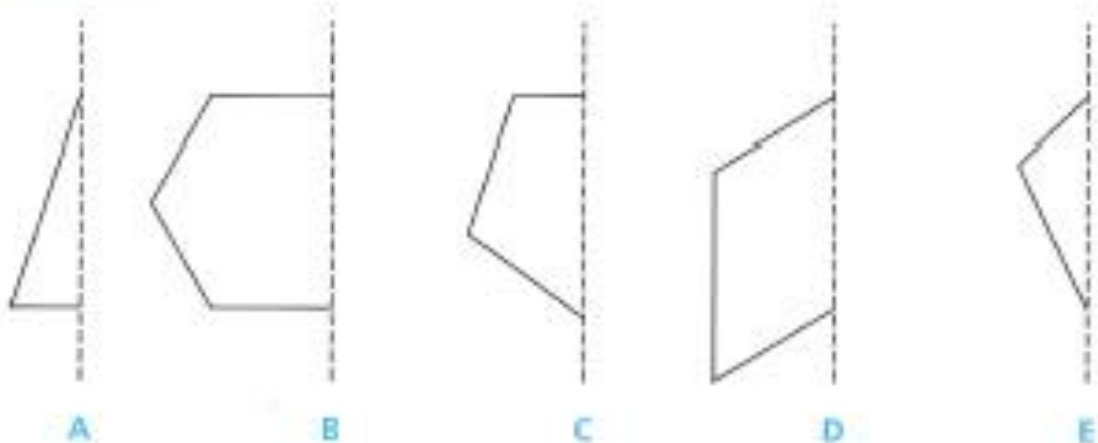
Meena buys a present for a friend.  
She picks the one that is closest to £10.

How much does she spend?

- A £8.60      B £11.70      C £8.49      D £12.65      E £11.41
- 

14

When reflected in the mirror line, which shape becomes a regular polygon?



# 15

Put these lengths in order, starting with the largest:

2.2 m

240 cm

2.24 m

222 cm

2.47 m

- A 2.47 m 2.24 m 240 cm 222 cm 2.2 m
- B 2.47 m 240 cm 2.24 m 222 cm 2.2 m
- C 240 cm 222 cm 2.47 m 2.24 m 2.2 m
- D 2.2 m 222 cm 2.24 m 240 cm 2.47 m
- E 2.47 m 2.2 m 2.24 m 240 cm 222 cm

# 16

These times are four athletes' results in a 100m race:

13.41 seconds    13.02 seconds    12.94 seconds    12.09 seconds

What are the differences between the 1st and 2nd positions, and between the 1st and 3rd positions?

- A 0.85 seconds, 0.93 seconds
- B 0.39 seconds, 0.47 seconds
- C 0.83 seconds, 0.06 seconds
- D 0.39 seconds, 0.08 seconds
- E 0.85 seconds, 0.08 seconds

# 17

Paul spent 80% of his pocket money on a model car.  
He now has 40p left.

How much did the car cost?

- A £2.00    B £1.60    C £0.50    D £0.32    E £1.20

18

Mrs Hall uses a fruit juicer.  
On average, one grapefruit and two oranges produce 300 ml of juice.  
The grapefruit alone produces 130 ml.

How much juice does an average orange produce?

- A 170 ml    B 65 ml    C 115 ml    D 85 ml    E 135 ml
- 

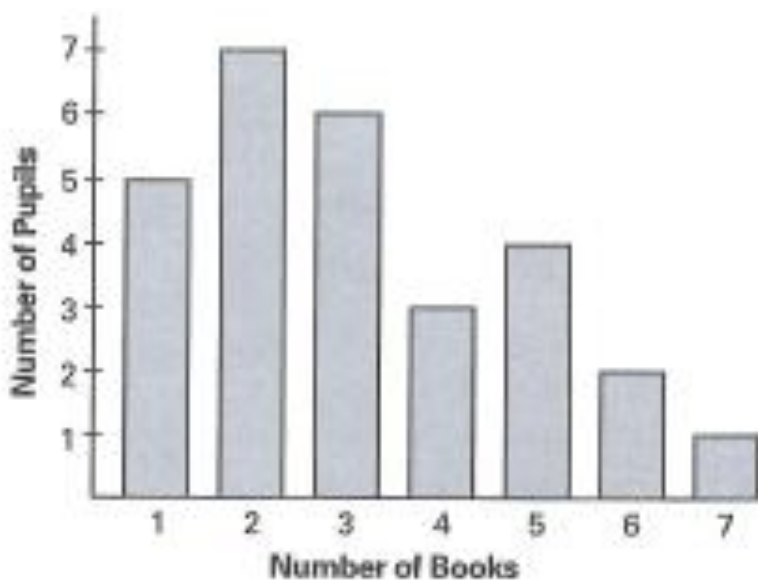
19

A garden centre bought 200 plants for £160.

What was the cost of one plant?

- A £0.32    B £0.80    C £1.25    D £3.20    E £8.00
- 

20



Pupils in Mrs Soper's class read between 1 and 7 books last month, as shown in the bar chart above.

Which one of these statements is NOT true?

- A 4 pupils read 5 books each.  
B Less than half of the pupils read at least 3 books each.  
C 3 pupils read 4 books each.  
D There were 28 pupils in Mrs Soper's class.  
E The total number of books read by the pupils was greater than 50.

21

A shop ordered 12 cartons of pencils on Wednesday and 14 cartons on Thursday. Each carton contained 144 pencils.

How many pencils did the company order altogether?

- A 3524      B 3744      C 2744      D 3724      E 3644

22

The table below shows part of the timetable for a boat service along the River Thames in London.

Embankment		0727		0757		0817	0827
London Eye		0730		0800		0820	0830
Blackfriars		0737		0807		0827	0837
London Bridge City	0727	0742	0757	0812	0822	0832	0842
Tower		0746		0816		0836	0846
Canary Wharf	0737	0755	0807	0825	0832	0845	0855
Greenwich		0802		0832		0852	0902
QEII		0810		0840		0900	0910
Woolwich Arsenal		0817		0847			0917

Tom arrives at London Bridge City at quarter past eight.

How many minutes must he wait for the next boat to Woolwich Arsenal?

- A 7      B 10      C 17      D 20      E 27

23

Trevor has £100.

He buys five toys costing £19.99, £9.99, £14.99, £34.99 and £7.99.

How much money does Trevor have left?

- A £22.05      B £11.95      C £11.05      D £12.05      E £21.95

24

Alexis asked a hundred people whether they would go on holiday this year. The diagram below shows her results.



Roughly how many people were unsure whether or not they would go on holiday?

- A 20      B 40      C 60      D 80      E 100
- 

25

The sum of three whole numbers is 1000.  
One of the numbers is between 275 and 325.  
Another of the numbers is between 225 and 275.

Which of these could be the third number?

- A 487      B 553      C 809      D 241      E 764

26

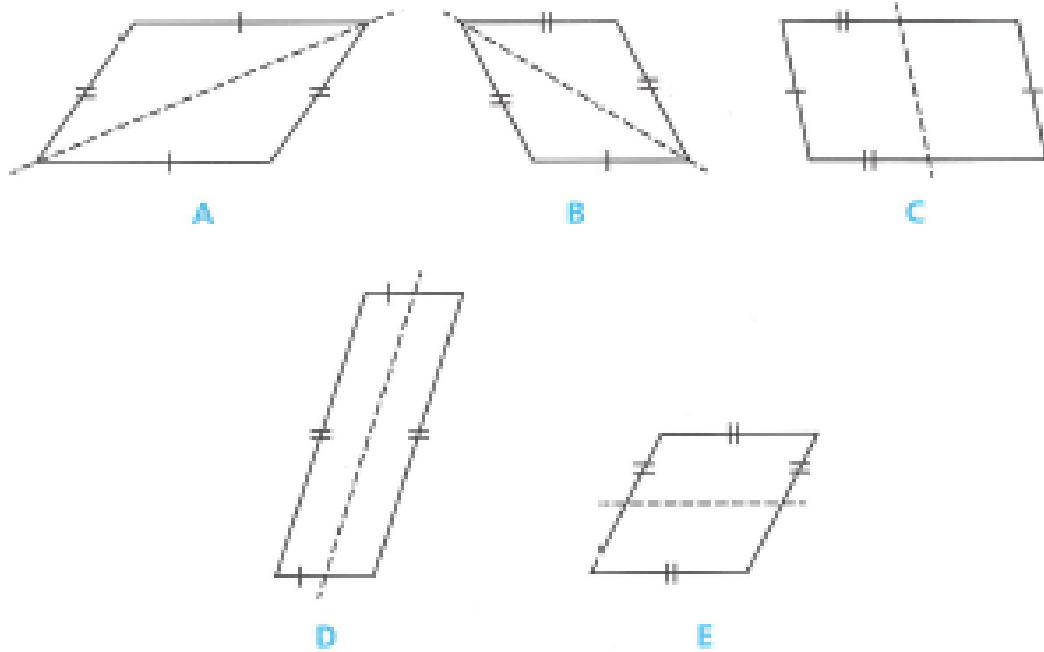
A number is first squared, then divided by 10, then reduced by 2.  
The number ends up as  $-1.1$ .

What was the number at the start?

- A 81      B 18      C 3      D 6      E 2

27

In these five parallelograms, sides of equal length have been marked.



In which one is the dotted line a line of symmetry?

28

On sports day, Martin beat Philip by seven tenths of a metre.  
Philip beat Carl by ninety-three hundredths of a metre.

By how many metres did Martin beat Carl?

- A 0.937 m      B 1.00 m      C 0.100 m      D 1.63 m      E 0.793 m

29

Surinder's ruler measures 30 cm.  
He wonders how many rulers would be needed to make 1 kilometre.

Which of these is the best estimate of the number of rulers needed?

- A 300      B 3000      C 1000      D 30000      E 30

30



Craig uses these six number cards to make two numbers with three digits, for example 989 and 999.

How many different versions of this inequality can Craig make?



- A 2      B 3      C 4      D 5      E 6

31

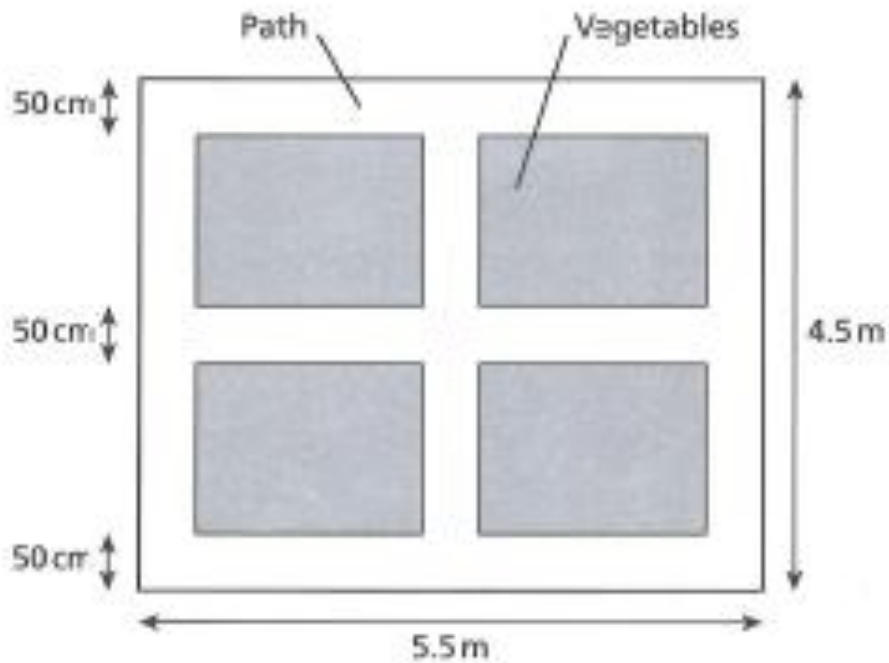
Town	Population
Freeburgh	A quarter of a million
Greyholme	25 900
Highborough	Two hundred and fifty-three thousand

The table shows the population of three towns.

Which of the following shows the towns arranged in order of the size of their populations, starting with the smallest?

- A Highborough, Greyholme, Freeburgh  
 B Greyholme, Freeburgh, Highborough  
 C Freeburgh, Highborough, Greyholme  
 D Greyholme, Highborough, Freeburgh  
 E Highborough, Freeburgh, Greyholme

32



This plan shows a vegetable garden.  
The width of the path is 50 cm throughout.

Calculate the total length of the path.

- A 25 m      B 27 m      C 26 m      D 25.5 m      E 27.5 m

33

In a ricing competition, the horses started at three-minute intervals.  
The first horse started at 10:45.  
The 18th horse took 13 minutes to complete the course.

At what time did the 18th horse finish?

- A 11:12      B 11:49      C 11:36      D 11:52      E 11:09



34

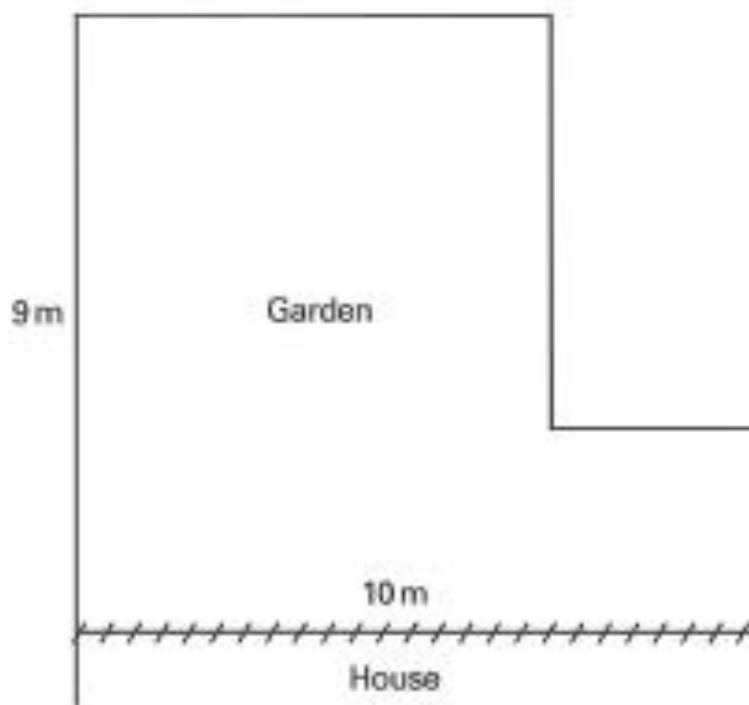
Pack size	Price per pack	
	1 pack	3 packs
Standard (2 batteries)	£3.00	£2.80
Multipack (4 batteries)	£5.60	£4.50
Saverpack (6 batteries)	£7.20	£6.00

Jessica wants to buy some batteries.

How much does she save on each battery if she buys three Saverpacks instead of standard packs of batteries as single packs?

- A £0.30      B £0.10      C £3.00      D £0.20      E £0.50

35



Mrs Evans needs to put a fence around her back garden.

How much fencing must she buy?

- A 38m      B 28m      C 19m      D 29m      E 25m

36

A straight path is 4 metres long.  
Flowers are planted at 20 cm intervals along both sides of the path, up to the ends.

How many flowers are needed?

A 20

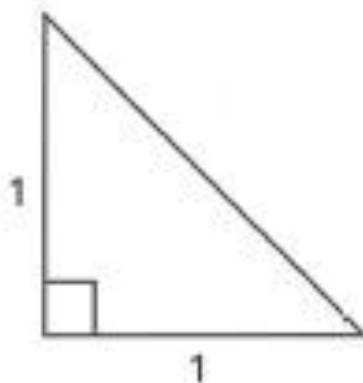
B 21

C 40

D 42

E 48

37

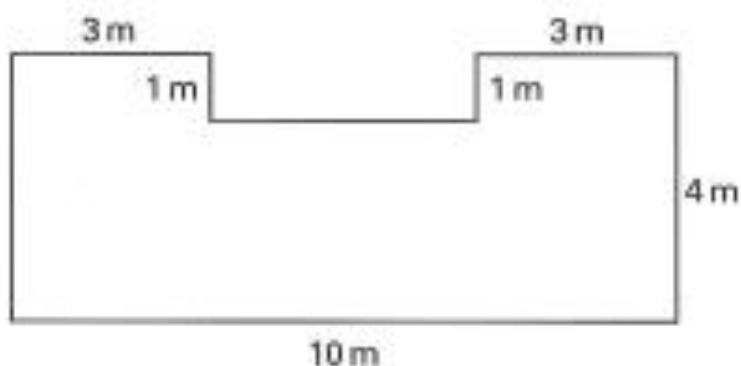


An isosceles right-angled triangle with sides of length 1 and area  $\frac{1}{2}$  is shown above.

If six of these triangles are put together to form a shape with area 3, which of these CANNOT be the shape they form?

- A rectangle
- B trapezium
- C square
- D parallelogram
- E pentagon

38



This is a plan of the patio at the back of Mr Duncan's house.  
He wishes to lay down new paving stones.  
Each stone measures 50 cm by 50 cm.

How many stones does he need?

- A 36      B 144      C 72      D 160      E 40

39

The times of the four runners on the blue team were  $11\frac{1}{2}$  minutes,  $\frac{3}{12}$  hour, 0.3 hours and 20.4 minutes.  
The total times for the four runners on the red team was 55 minutes.

How many minutes longer was the total time of the blue team than the red team?

- A 11.5 minutes  
B 9.9 minutes  
C 7.2 minutes  
D 23.4 minutes  
E 28.0 minutes

40

Starting with the smallest, arrange these distances in order of size.

- A 69 m,  $\frac{63}{100}$  km, 0.67 km
  - B  $\frac{63}{100}$  km, 0.67 km, 69 m
  - C 0.67 km, 69 m,  $\frac{63}{100}$  km
  - D  $\frac{63}{100}$  km, 69 m, 0.67 km
  - E 69 m, 0.67 km,  $\frac{63}{100}$  km
- 

41

Which one of these statements is NOT true?

- A A trapezium always has 2 sides of equal length.
  - B A rhombus has 2 pairs of parallel sides.
  - C All squares have 4 lines of symmetry.
  - D One interior angle in a quadrilateral may be reflex.
  - E A parallelogram has opposite angles of equal size.
-

42

This is part of a bus timetable showing the times that a bus arrives at two stops (Home and School).

### Bus Times

Home	07:05	School	07:15
	then every 15 min		then every 15 min
School	07:45	Home	07:55

Saima walks for 5 minutes to the bus stop and catches the bus to school. She starts school at 8.50 am and finishes at 3.35 pm.

What is the latest time she can leave home and the earliest time she can arrive back home?

- A 08:05, 16:30
- B 07:50, 16:15
- C 08:00, 16:30
- D 07:35, 16:20
- E 07:45, 16:35

43

Mr Marshall measured the length of his garden. It was 20.0 metres to the nearest tenth of a metre.

Which of the following *could* have been the actual length of his garden?

- A 19.95 m
- B 20.05 m
- C 19.09 m
- D 19.05 m
- E 20.09 m

44

Charlotte is setting a problem for 'Find the Number!'.  
She wants the number to be 25.  
Her first two clues are:

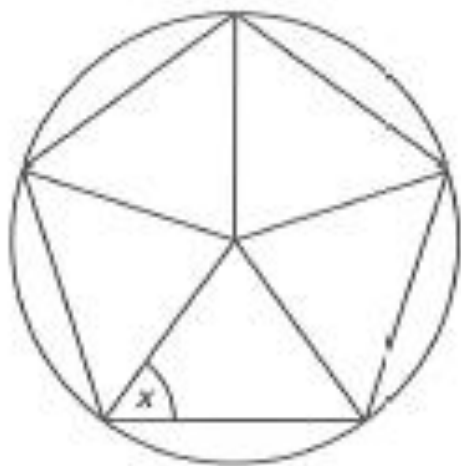
Clue 1: The number is a factor of 200.

Clue 2: The number is a multiple of 25.

What should her third clue be to completely identify the number?

- A The number is a square number.
- B The number is an even number.
- C The number is a two-digit number.
- D The number is an odd number.
- E The number is a prime number.

45



Jodie has five identical triangles.  
She fits them into a circle as shown above.

What is the value of the angle marked  $x$ ?

- A  $36^\circ$
- B  $54^\circ$
- C  $60^\circ$
- D  $45^\circ$
- E  $72^\circ$

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Which statement is NOT true?

- A A rhombus is a parallelogram.
  - B A square is a rectangle.
  - C A trapezium has 1 pair of parallel sides.
  - D A rhombus has 2 lines of symmetry.
  - E A square is not a rhombus.
- 

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Which one of these numbers has exactly two different prime factors?

42      11      26      49      30

- A 42                  B 11                  C 26                  D 49                  E 30
- 

48

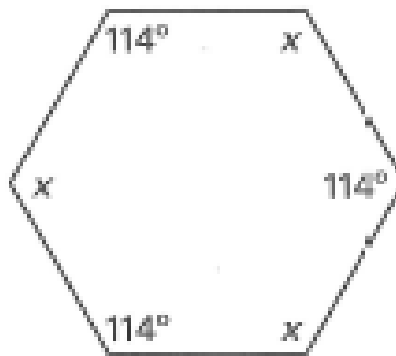
A bag of apples weighs 2 kg to the nearest 100g.

Complete this statement:

The actual weight of apples in the bag is between \_\_\_\_ kg and \_\_\_\_ kg.

- A 1.995    2.005
  - B 1.99     2.01
  - C 1.95     2.05
  - D 1.9       2.1
  - E 1.5       2.5
-

49



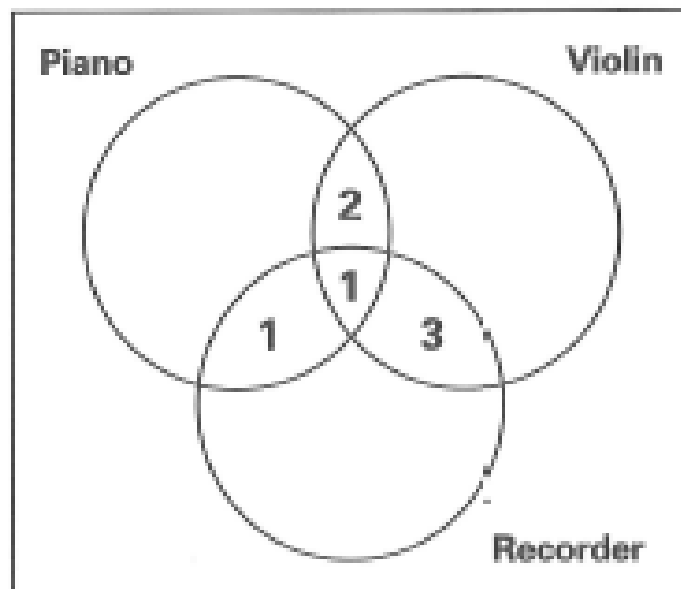
In this hexagon, the three angles marked with  $x$  are the same size.

What is the size of each of these angles?

- A  $136^\circ$       B  $114^\circ$       C  $126^\circ$       D  $116^\circ$       E  $124^\circ$

50

Two-thirds of the children in a class of 21 play at least one musical instrument. 5 play the piano; 7 play the violin. Some of this information is shown in the diagram below.



How many play the recorder?

- A 10      B 7      C 9      D 5      E 4