

1

3209

What is this number in words?

- A three thousand two hundred and ninety
 - B three thousand two hundred and nine
 - C thirty-two thousand and nine
 - D three thousand and twenty-nine
 - E thirty-two thousand and ninety
-

2

Which of these words has a vertical line of symmetry?

BOB
HOD
TOT
KID
COOK

- A BOB
 - B HOD
 - C TOT
 - D KID
 - E COOK
-

3

How should the time half past six in the evening be written?

- A 16:30
 - B 20:30
 - C 17:30
 - D 06:30
 - E 18:30
-

4

Sunita collected the following data during a survey of pupils in her class.

	Favourite outings		
	Ice Rink	Cinema	Swimming Pool
Girls	3	4	?
Boys	7	2	11

39 pupils took part in the survey.

How many girls said the swimming pool was their favourite outing?

- A 10 B 28 C 2 D 12 E 32
-

5

Carmel draws a plan of her school using a scale of 1 cm to 5 m.
On the plan, the playground is 6 cm long.

What is the real length of the playground?

- A 6 m B 30 m C 11 m D 7 m E 45 m
-

6

One display cabinet holds 38 DVDs.

How many cabinets will be needed to hold 760 DVDs?

- A 18 B 16 C 19 D 20 E 17
-

7

All the children in Class 6 were asked how many brothers and sisters they have. The results were recorded in the table below.

Number of brothers and sisters	Number of children in the class
0	3
1	12
2	8
3	1

Each child made a card for each of their brothers and sisters.

How many cards were made?

A 24

B 31

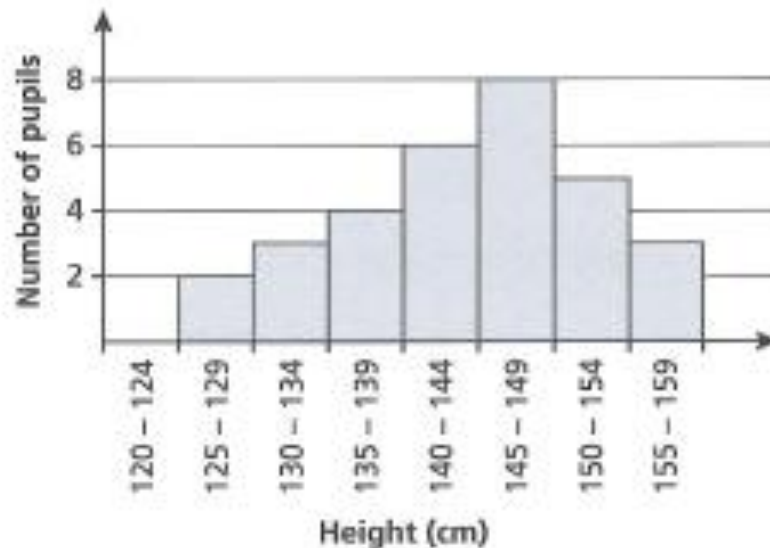
C 26

D 34

E 21

8

This bar chart shows the heights of pupils in a class.



Which statement **MUST** be true?

A 2 children are 125 cm tall.

B 8 children are at least 140 cm tall, but less than 145 cm tall.

C 8 children are more than 144 cm tall, but less than 150 cm tall.

D No children are taller than 158 cm.

E 4 children are at least 150 cm tall, but less than 160.5 cm tall.

9

Which of these is NOT a square number?

- A 16 B 9 C 25 D 36 E 12
-

10

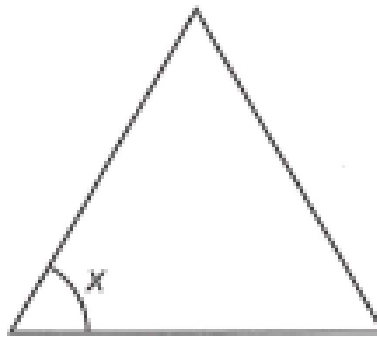
This magic grid contains number sequences that increase in steps.

4	8	12
8	?	16
12	16	20

What is the missing number?

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

11



What is the approximate value of angle x ?

- A 30° B 90° C 120° D 60° E 45°
-

12

What fraction of 2.4 litres is 400 ml?

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

13



Which triangle has an obtuse angle?

- A P B Q C R D S E T

14

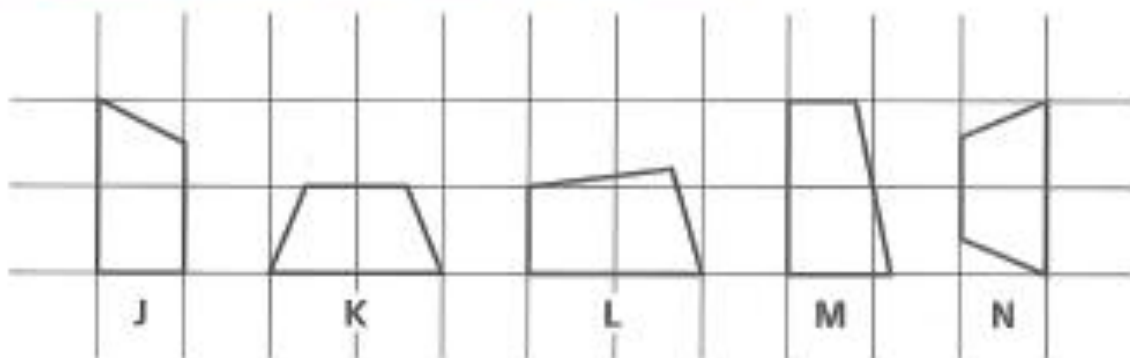
525 raffle tickets were sold by 25 pupils in one school.

If all pupils sold the same number of tickets, how many tickets did each pupil sell?

- A 41 B 31 C 21 D 19 E 20

15

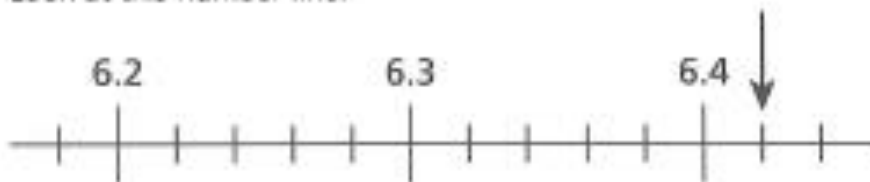
How many of the shapes below are trapeziums?



- A 0 B 2 C 3 D 4 E 5

16

Look at this number line.



What number does the arrow point to?

- A 6.42 B 6.41 C 0.02 D 6.40 E 6.32

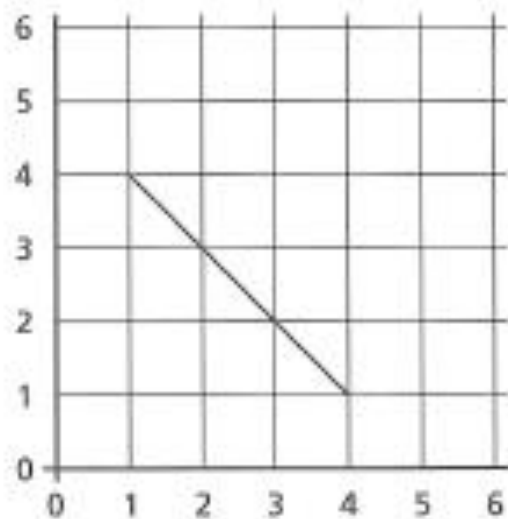
17

There are 22 boys and 33 girls in the school chess club.

What fraction of the club is made up of girls?

- A $\frac{2}{5}$ B $\frac{22}{33}$ C $\frac{3}{11}$ D $\frac{3}{5}$ E $\frac{5}{11}$

18



The end points of five lines are shown below.

Which line is parallel to the line in the diagram?

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

19

Look at this grid in which there are some empty spaces.

13		17	→ 45
?		19	→ 45
	8		→ 45
↓	↓	↓	
45	45	45	

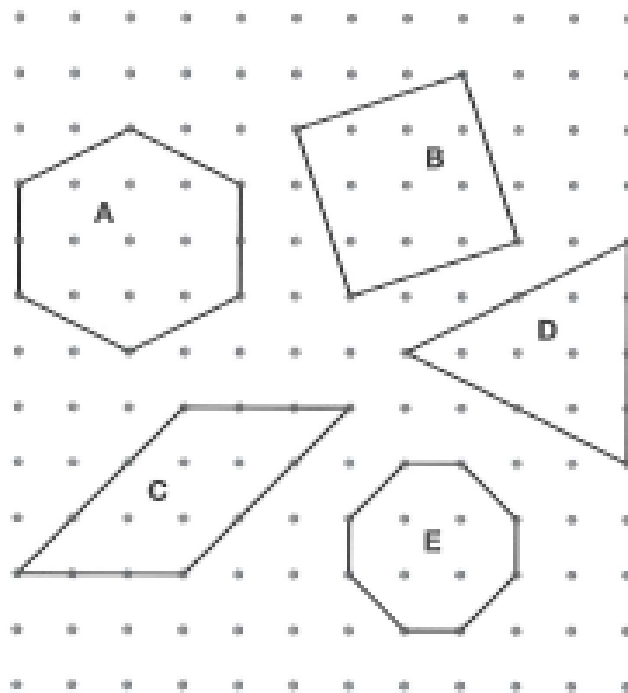
When every square is filled in, each row and each column adds up to 45.

Which number should be in the square with the question mark?

- A 15 B 28 C 9 D 22 E 4

20

These shapes are drawn on a centimetre-square grid.



Which shape has all sides of equal length?

- A A B B C C D D E E

21

Phoebe enjoys lots of out-of-school activities.

On Sunday she does gymnastics, which costs £6.50.

On Tuesday she goes to Brownies, which costs £6.

On Wednesday she has a piano lesson, which costs £10.

On Thursday she plays the flute in a music group, which costs £7.20.

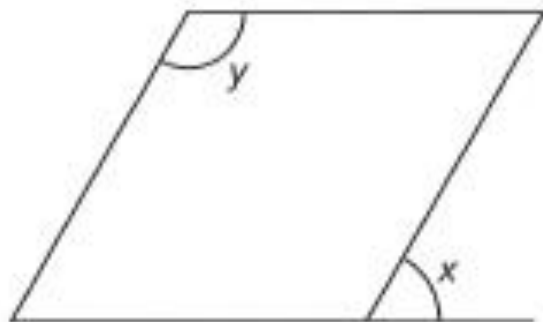
On Friday she goes to a German class, which costs £12.

What is the total cost of Phoebe's activities each week?

- A £31.70 B £21.70 C £41.70 D £35.20 E £41.80
-

22

In the parallelogram below, angle y measures 110° .



What is the value of angle x ?

- A 60° B 70° C 80° D 90° E 110°
-

23

In a survey of 85 people, every fifth person had a pierced ear.

How many people had a pierced ear?

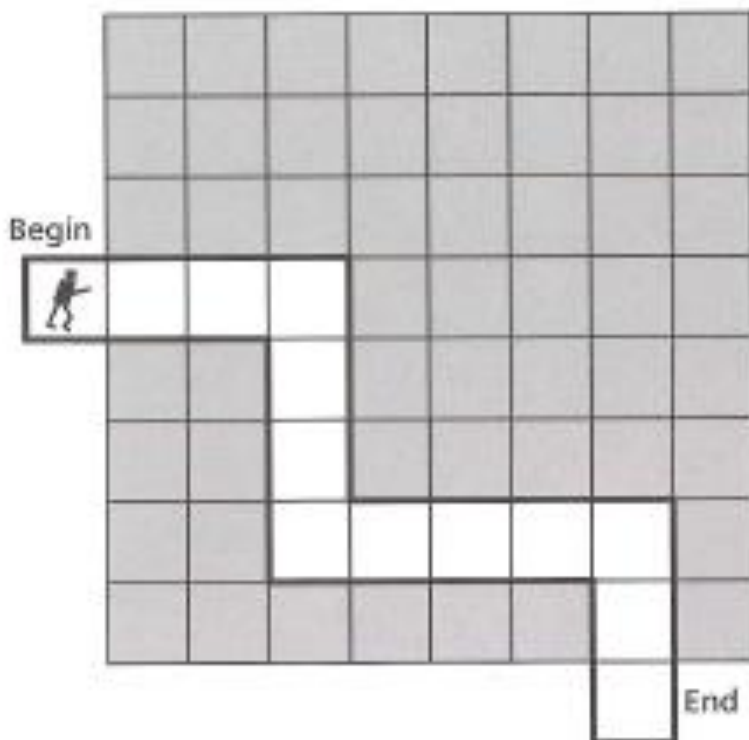
- A 0.5×85
B $85 \times \frac{1}{5}$
C $5 + 85$
D $85 - \frac{4}{5}$
E 85×0.25

This table shows the results of a science test:

Test result	Frequency
16 – 20	3
21 – 25	1
26 – 30	5
31 – 35	8
36 – 40	12
41 – 45	11
46 – 50	2

Which one of these statements is true?

- A 43 children were tested altogether.
- B 18 children scored less than 36.
- C Less than half of the children scored above 35.
- D 38 children scored between 26 and 45.
- E A third of the children scored between 21 and 35.



Can you guide the robot along the white squares through this grid?
 It starts on the square marked 'Begin' and finishes on the square marked 'End'.
 You can only programme it to move FORWARD, TURN LEFT 90° or
 TURN RIGHT 90°.

Which of the instructions below will guide the robot through the grid?

- A** FORWARD 3, TURN LEFT 90°, FORWARD 3, TURN RIGHT 90°, FORWARD 4, TURN LEFT 90°, FORWARD 2.
- B** FORWARD 4, TURN RIGHT 90°, FORWARD 4, TURN LEFT 90°, FORWARD 4, TURN RIGHT 90°, FORWARD 2.
- C** FORWARD 4, TURN RIGHT 90°, FORWARD 3, TURN RIGHT 90°, FORWARD 4, TURN LEFT 90°, FORWARD 3.
- D** FORWARD 3, TURN RIGHT 90°, FORWARD 3, TURN RIGHT 90°, FORWARD 4, TURN RIGHT 90°, FORWARD 2.
- E** FORWARD 3, TURN RIGHT 90°, FORWARD 3, TURN LEFT 90°, FORWARD 4, TURN RIGHT 90°, FORWARD 2.

26

Rucksacks are being packed into trunks for a hiking trip.
Each trunk holds nine rucksacks.

How many trunks are needed for 79 rucksacks?

- A 7 B 8 C 9 D 10 E 11

27

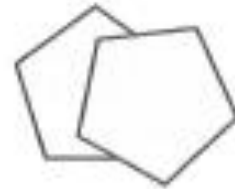
Alfie has these tiles:



6 squares

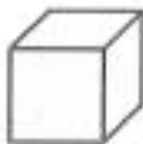


4 triangles



2 pentagons

All the sides of Alfie's tiles are the same length.
Alfie can make any of these solids with his tiles except one.



Cube

A



Square-based
pyramid

B



Pentagon-
based pyramid

C



Triangle
prism

D



Pentagon
prism

E

Which solid can Alfie NOT make with his tiles?

- A A B B C C D D E E

28

Jonathan gets £4.20 pocket money each week.
His younger brother David gets half as much.

If David saves all of his pocket money for a whole year, how much money will he have?

- A £2.10 B £25.20 C £52.00 D £109.20 E £218.40
-

29

Ian is now twice his sister's age.
In four years' time, Ian will be 16.

How old will his sister be then?

- A 6 B 7 C 16 D 12 E 10
-

30

Which of these is the smallest?

- A 3.6% B $\frac{1}{25}$ C 0.05 D 3.49% E $\frac{1}{15}$
-

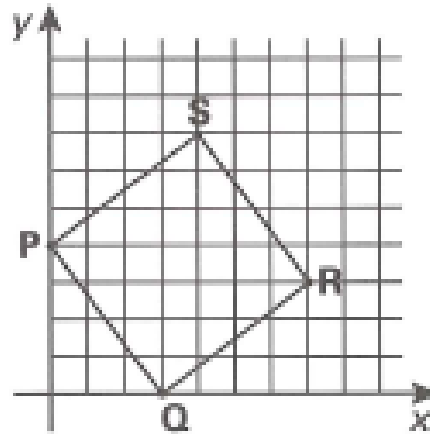
31

Ella is going on a school holiday, which costs £180.
Each week she takes £15 to school towards the cost.
So far she has paid £75.

How many more weekly payments does she need to make?

- A 3 B 5 C 6 D 7 E 9
-

32



PQRS is a square on a 1 cm square grid.

If the coordinates of point P are (a, b) and those of point R are (c, d) , what is the value of $b - d$?

A -1

B 1

C 2

D -2

E -7

33

How many of the following shapes have at least one pair of parallel sides?

regular hexagon

regular pentagon

rhombus

isosceles triangle

trapezium

A 1

B 2

C 3

D 4

E 5

34

There are 66 passenger seats on a bus.

The bus left the garage without passengers.

At the first stop, 12 people got on.

At the second stop, 15 people got on.

At the third stop, 19 people got on and 4 got off.

At the fourth stop, 23 people got on and 8 got off.

How many empty seats are there now?

A 5

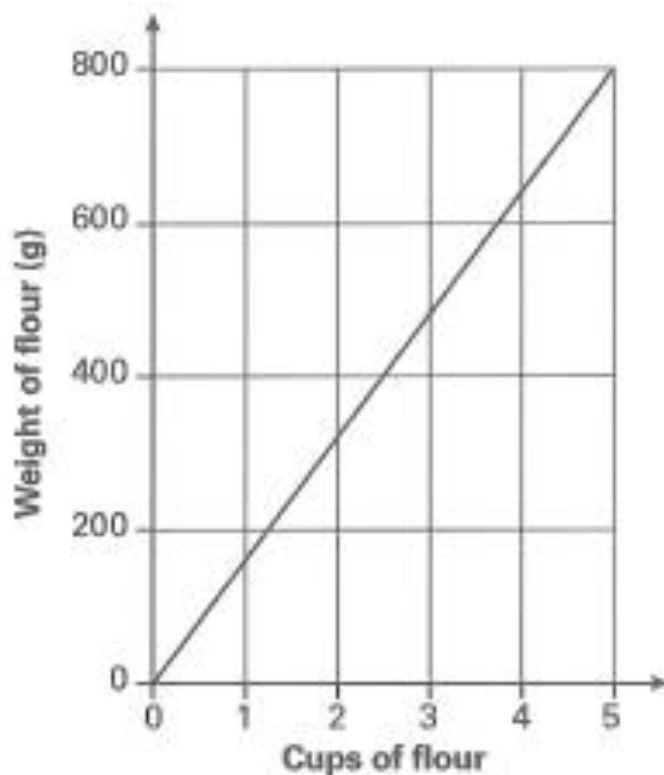
B 10

C 9

D 11

E 57

35



Melissa and Bradley are cooking small cakes for the school bazaar.
The recipe uses cups of flour instead of grams.
Two cups of flour are needed for every egg.

Use the graph to work out the number of grams of flour they need if they use three eggs?

- A 980g B 900g C 480g D 1 kg E 960g

36

The perimeter of a rectangle is 18 cm.

What could be the area of the rectangle?

- A 18cm^2 B 18m^2 C 24cm^2 D 81cm^2 E 36cm^2

37

A stack of 6 identical green boxes weighs the same as a stack of 4 identical yellow boxes.

Which of the following statements is NOT correct?

- A 3 green boxes weigh the same as 2 yellow boxes.
- B 8 yellow boxes weigh the same as 12 green boxes.
- C 30 green boxes weigh the same as 20 yellow boxes.
- D 16 yellow boxes weigh the same as 24 green boxes.
- E 36 green boxes weigh the same as 22 yellow boxes.

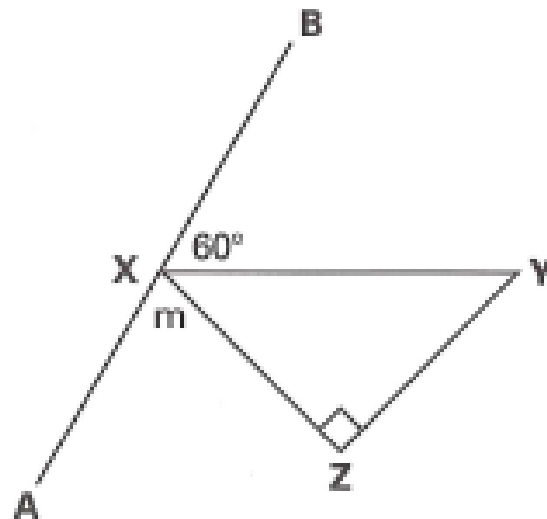
38

Which of these is different from the others?

- A 0.25 of 100
- B 25% of 100
- C $\frac{3}{8}$ of 100
- D 0.4 of 100
- E $\frac{1}{4}$ of 100

39

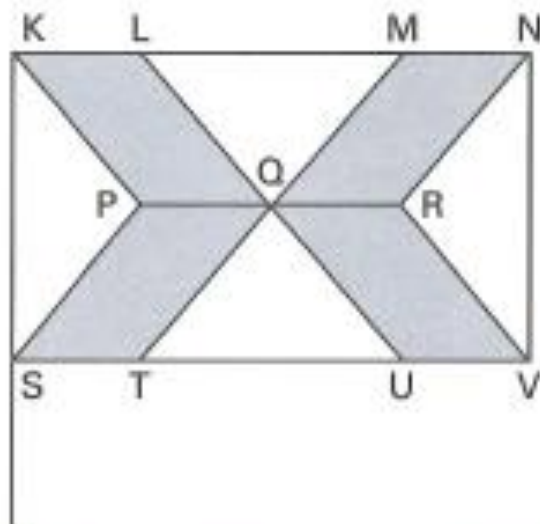
AB is a straight line.
XYZ is an isosceles triangle.



What is the value of angle m?

- A 120°
- B 95°
- C 60°
- D 85°
- E 75°

40



Which of these pairs of lines is perpendicular?

- A LU and MT
- B KN and NV
- C PR and TU
- D KP and LQ
- E NR and RV

41

Two sisters eat Weetbisks cereal for breakfast.

Each Weetbisks box contains 24 biscuits.

Georgina eats m Weetbisks biscuits each morning.

Jennifer is less hungry and has only n Weetbisks biscuits each day.

After four days there are four biscuits left in the Weetbisks box.

Which answer is correct?

- A $m = 2$ and $n = 3$
- B $m = 3$ and $n = 2$
- C $m = 3$ and $n = 1$
- D $m = 4$ and $n = 2$
- E $m = 1$ and $n = 4$

42

Large cans of lemonade hold 330 ml.

Small cans hold 150 ml.

On Monday, Kerry drank a large can.

On Tuesday she drank two small cans and on Wednesday she drank one small can.

Her younger brother, Sam, drank exactly half the amount that Kerry drank in total.

How much did Sam drink?

A 450 ml

B 780 ml

C 480 ml

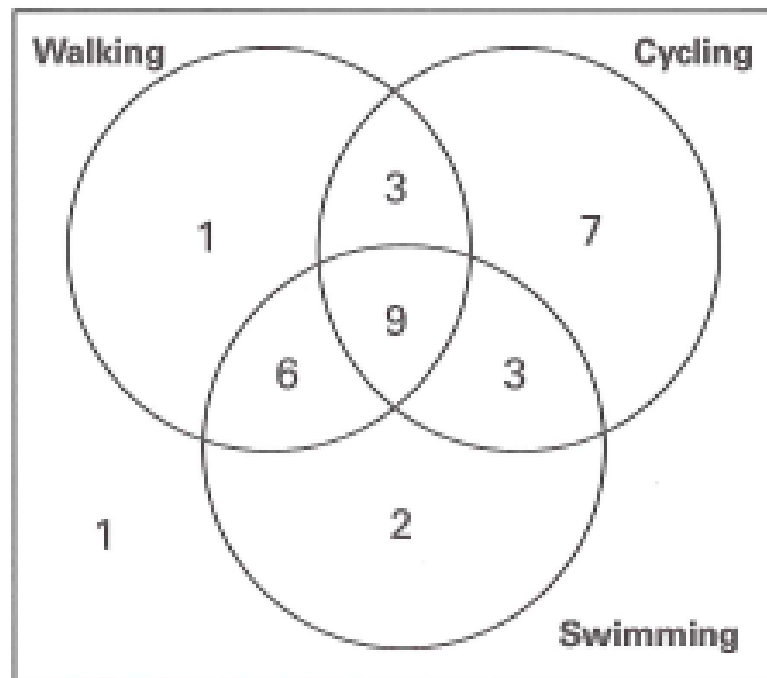
D 390 ml

E 630 ml

43

The Class 6 children were asked if they went walking, cycling or swimming during the holidays.

The number of children doing each activity was put on a Venn diagram.



What fraction of the class did swimming AND cycling?

A $\frac{15}{32}$

B $\frac{3}{32}$

C $\frac{15}{16}$

D $\frac{3}{8}$

E $\frac{12}{31}$

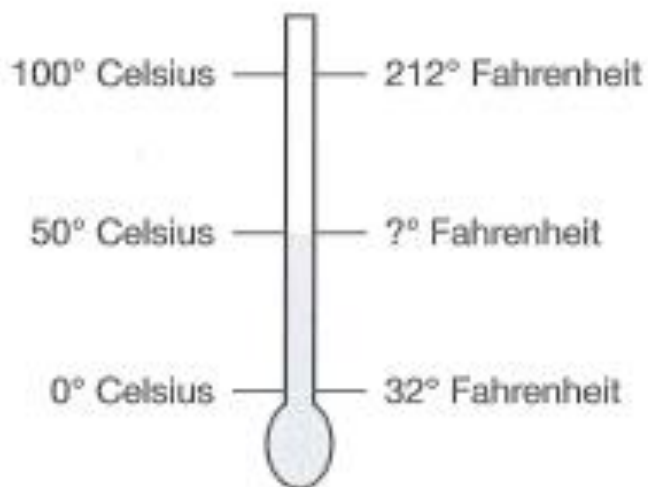
44

St Gregory's School held a book fair.
Each book cost £2.99.
250 books were bought by the children altogether.

What was the total amount of money spent by the children at the fair?

- A £20.93
- B £74.75
- C £209.30
- D £747.50
- E £2093.00

45



The diagram shows two temperatures in degrees Celsius and in degrees Fahrenheit.

What is 50 degrees Celsius in degrees Fahrenheit?

- A 50° Fahrenheit
- B 106° Fahrenheit
- C 122° Fahrenheit
- D 148° Fahrenheit
- E 162° Fahrenheit

46

1 foot is about 0.305 metres and 1 inch is about 0.025 metres.
Patrick is 4 feet 11 inches tall.

Which is closest to his height in metres?

- A 1.3m B 1.4m C 1.5m D 1.6m E 1.7m
-

47

Sam gets £15 pocket money **each month** from his parents.
He also gets £9.50 **each week** from his paper round.

How much money does Sam get in one year?

- A £674 B £1568 C £894 D £1274 E £294
-

48

Joanne's mum and dad run a café.
In summer, fruit salad is very popular.
Every day they use:

- 4 kg apples, which cost them £2.30 per kg
- 6 kg oranges, which cost them £3 per kg
- 5 kg bananas, which cost them £2 per kg
- 3 kg grapes, which cost them £4 per kg
- 2 kg strawberries, which cost them £3.50 per kg

How much is their daily fruit bill?

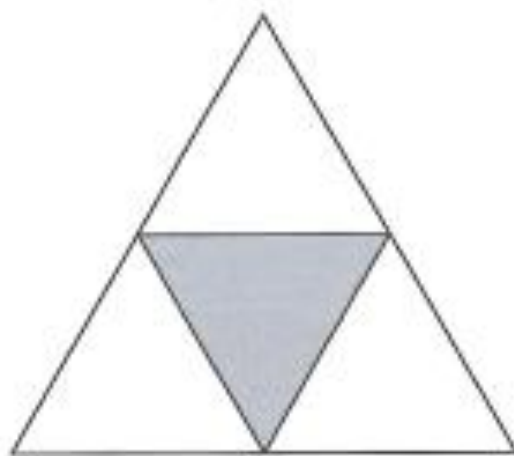
- A £14.80 B £56.20 C £27.20 D £49.20 E £51.80
-

49

Which of these has the greatest value?

- A 20% of 220
- B $\frac{1}{2}$ of 220
- C $\frac{3}{10}$ of 220
- D 102
- E 0.2 of 220

50



The area of the shaded triangle is 250 mm^2 .

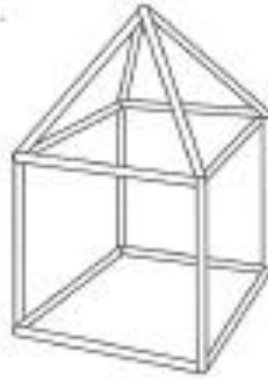
What is the area of the large triangle?

- A 750 mm^2
- B 50 cm^2
- C 10 cm^2
- D 250 cm^2
- E 75 cm^2

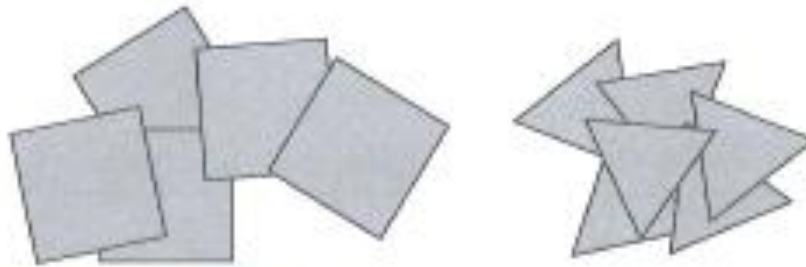
Paper 05 - A

1

Meera made this shape from straws.



She wants to make the same shape from tiles like these.



What tiles does she need?

- A 4 squares and 3 triangles
- B 4 squares and 4 triangles
- C 4 squares and 5 triangles
- D 5 squares and 4 triangles
- E 5 squares and 5 triangles

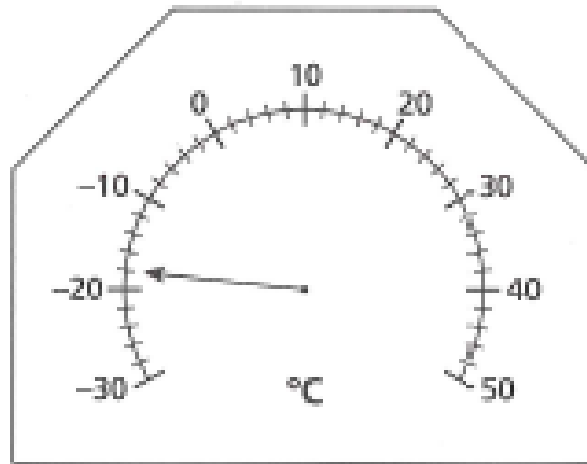
2

Last year, the sales for a shopping centre were nine million, ninety-two thousand and forty-five pounds.

What is this in figures?

- A £9 920 450
- B £9 092 045
- C £9 009 245
- D £9 092 450
- E £9 920 045

3



The dial shows the temperature inside a freezer.

What is the temperature in the freezer?

- A -19°C B -22°C C -14°C D -21°C E -18°C
-

4

Hannah made some biscuits for a party.

She put them all out on plates.

Each plate has the same number of biscuits.

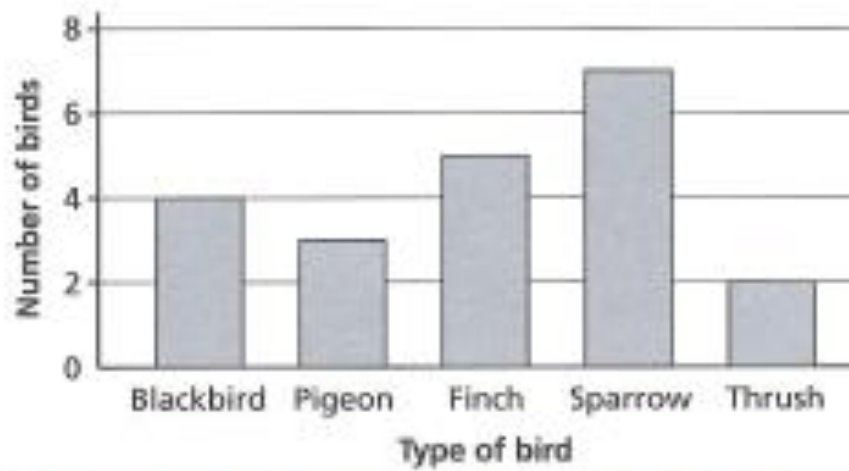
How many biscuits could Hannah have made?

- A 13 B 17 C 19 D 21 E 23
-

5

Some pupils recorded the numbers of different types of bird that they saw at a bird table.

The bar chart shows their results.



How many more finches than thrushes did they see?

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

6

Karen, Amrit and Sam are going to share two pizzas equally between them.

What fraction of a whole pizza should each of them have?

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

7

Dinesh spends £1.13.
He pays with a £2 coin.

What is the smallest number of coins that he can receive in change?

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

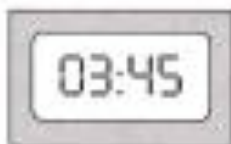
8

What number should go in the box?

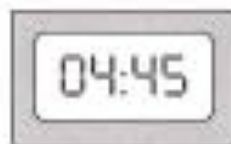
$$1680 + 1680 + 1680 + 1680 + 1580 = \boxed{} \times 10$$

- A 84 B 336 C 840 D 420 E 168
-

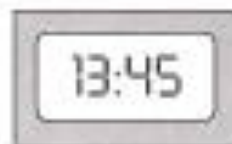
9



A



B



C



D



E

Which of these digital clocks shows that it is a quarter to four in the afternoon?

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

10

Here is part of a railway timetable.

London Paddington to Bath Spa					
London Paddington	0527	0630	0645	0700	0715
Reading	0557	0657	0711	0727	0741
Didcot Parkway		0712		0742	0756
Swindon	0625	0730	0740	0800	0815
Chippenham	0640	0745		0815	
Bath Spa	0653	0800		0830	

Maya wants to arrive in Didcot Parkway by half past seven in the morning.

What time must she leave London Paddington?

- A 0527 B 0630 C 0645 D 0700 E 0712

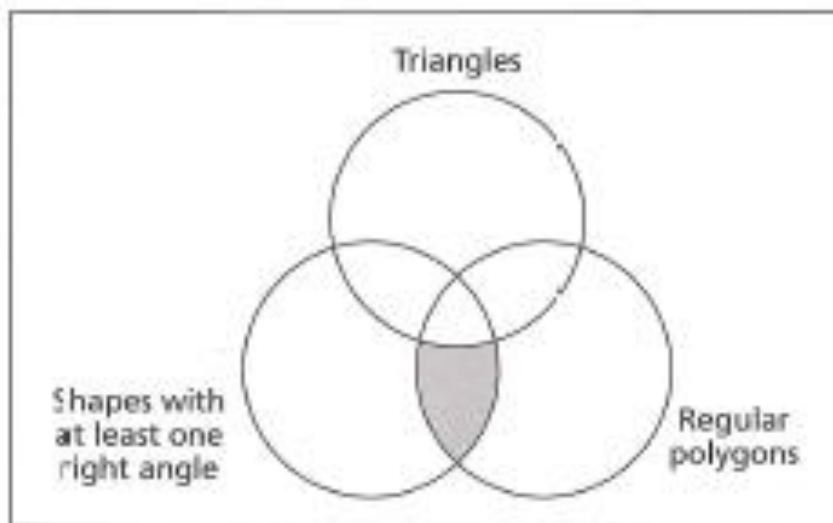
11

What is the cost of eight mugs at £1.99 each?

- A £15.92
 B £15.98
 C £16.00
 D £16.02
 E £16.08

12

Look at the Venn diagram.



Which of these shapes should go into the shaded region?



A



B



C



D



E

13

What is $1 - 0.117$?

A 0.99

B 0.09

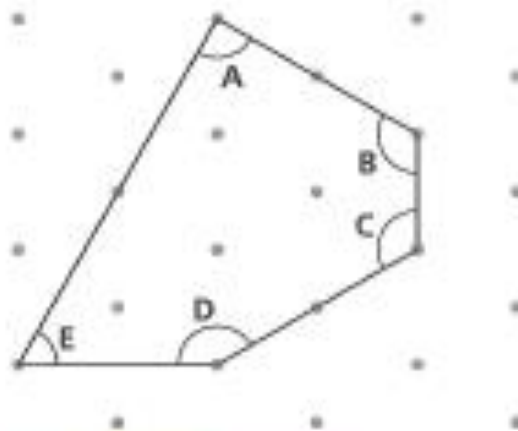
C 0.91

D 0.19

E 0.89

14

This shape is drawn on triangle dotted paper.



One of the angles is 60° . Which one is it?

A A

B B

C C

D D

E E

15

This repeating pattern is made up of squares, triangles and circles.



The pattern repeats after five shapes.

It goes on and on, repeating again and again.

What fraction of all the shapes in the pattern are squares?

A $\frac{1}{5}$ B $\frac{1}{2}$ C $\frac{2}{5}$ D $\frac{6}{10}$ E $\frac{6}{13}$

16

Five friends were all born in 2007.
Their birthdays are shown in the table below.

Child	Birthday
Kieran	3 rd July
Haq	31 st May
Harriet	16 th June
Lisa	10 th May
Jake	28 th July

Who is the oldest?

- A Kieran B Haq C Harriet D Lisa E Jake

17

Akira wants to calculate the cost of:
two teas, one coffee, two sandwiches and three apples.

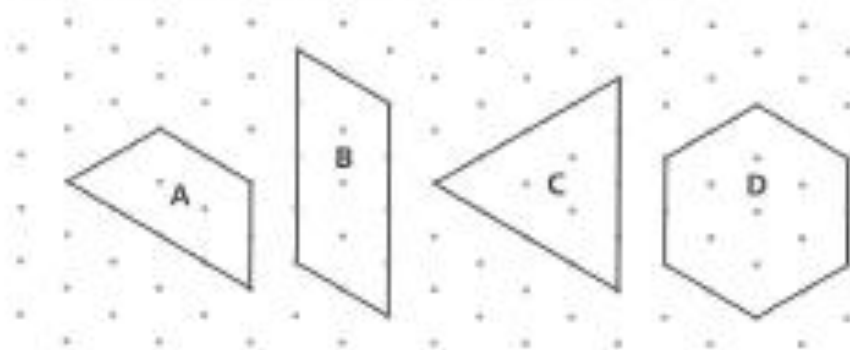
Café	
Tea or coffee.....	£1.99
Juice	£1.49
Sandwich.....	£2.99
Doughnut	£1.49
Apple.....	49p

Which of these calculations could he do?

- A $3 \times £2 + 2 \times £3 + 3 \times 50p + 3p$
 B $3 \times £2 + 2 \times £3 + 3 \times 50p - 4p$
 C $3 \times £2 + 2 \times £3 + 3 \times 50p + 4p$
 D $3 \times £2 + 2 \times £3 + 3 \times 50p + 8p$
 E $3 \times £2 + 2 \times £3 + 3 \times 50p - 8p$

18

These four shapes are drawn on a triangle dotted grid.



Which two shapes have the same area?

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

19

Which of these statements is correct?

- A $4\frac{1}{5} < 4.5$
 B $4\frac{1}{2} < 4.5$
 C $4\frac{1}{5} > 4.5$
 D $4\frac{1}{2} > 4.5$
 E $4\frac{1}{5} = 4.5$

20

10 pupils picked blackberries.

The table shows how many kilograms of blackberries they picked.

Weight in kilograms	Number of pupils
Less than $\frac{1}{2}$ kg	2
$\frac{1}{2}$ kg to less than 1 kg	0
1 kg to less than $1\frac{1}{2}$ kg	4
$1\frac{1}{2}$ kg to less than 2 kg	3
2 kg to less than $2\frac{1}{2}$ kg	1

How many pupils picked at least 1 kilogram?

- A 0 B 4 C 6 D 8 E 10

21

$$37 \times 497 + 63 \times 497 =$$

- A 9443
- B 44730
- C 49700
- D 54670
- E 9170644

22

This is the front view of a large building:



Which of these is the rear view of the building?



A



B



C



D



E

23

Josh started from a number between 1 and 5, and counted on in steps of 6. He reached the number 22.

What number did he start from?

A 4

B 2

C 1

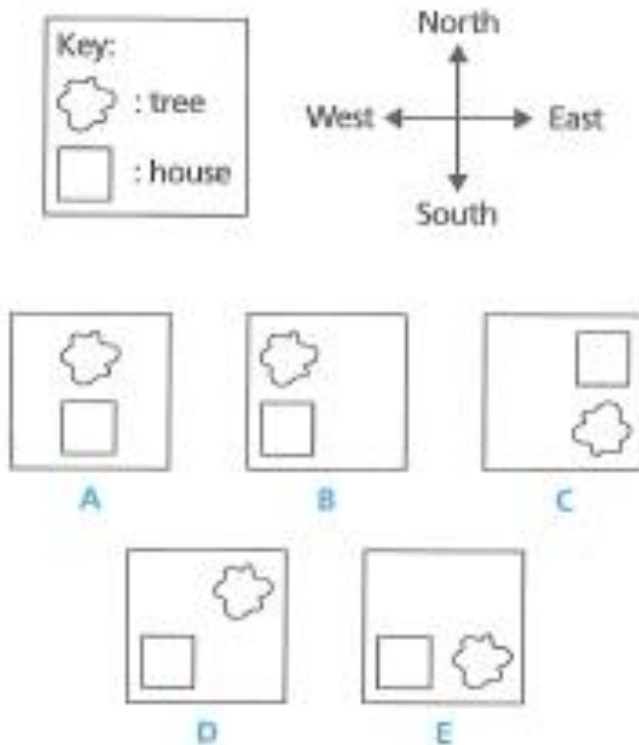
D 3

E 5

24

Callum is facing south-east.
He can see a tree in front of him, and a house on his left.

Which map is he on?



25

There are 816 pupils at Southfields School.
There are 28 more girls than boys in the school.

How many girls are there in the school?

A 380

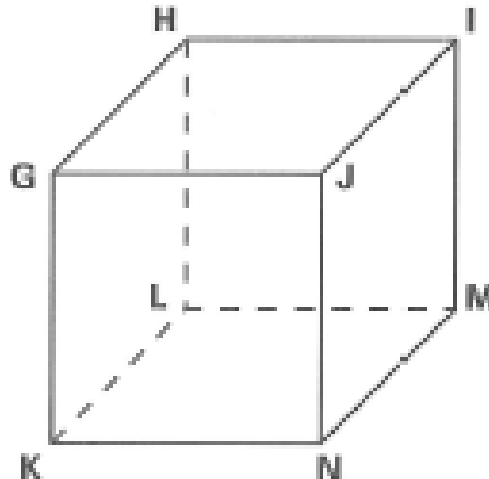
B 436

C 408

D 394

E 422

26



A cube has vertices G, H, I, J, K, L, M and N.
A cut is made through the plane GJML.

Which name best describes the cut face GJML?

- A square B rectangle C rhombus D quadrilateral E trapezium

27

Look at the information about what is in 100 grams of dried pasta.

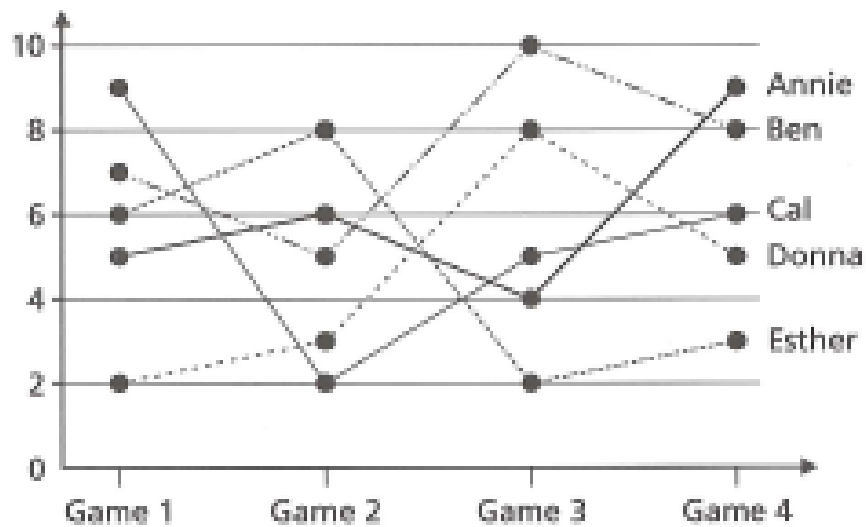
100 g contains:	
Protein	14.4 g
Carbohydrate	66.4 g
Fat	3.5 g
Fibre	2.6 g

How many grams of protein are there in 1 kilogram of pasta?

- A 1.44g B 0.144g C 144g D 86.9g E 1.44 kg

28

Five pupils played a game and scored points four times.
The graph shows how many points each pupil scored in each game.



Which pupil had the greatest difference between their lowest and highest scores?

- A Annie B Ben C Cal D Donna E Esther
-

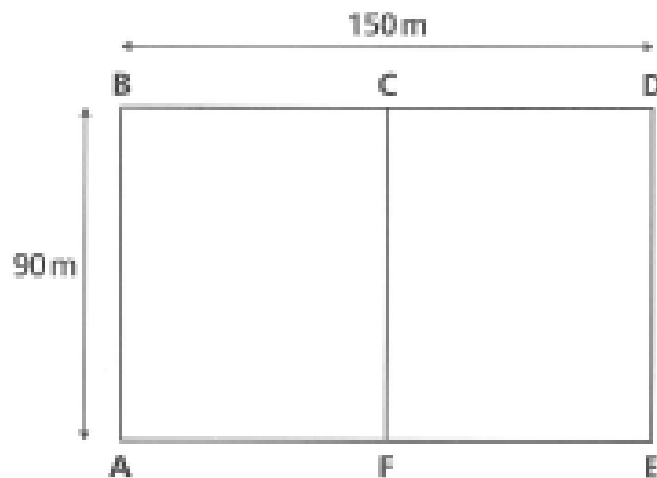
29

The sum of the first four square numbers is 30.

What is the sum of the first five square numbers?

- A 55 B 35 C 25 D 45 E 65
-

30



The playing field of Freeborough Primary School is a rectangle 150 metres long by 90 metres wide.

C and F are the middle points of the long sides.

The pupils are taking part in a sponsored walk around the field.

For each lap, the juniors walk around the rectangle ABDE and back to A.

For each lap, the infants walk around the rectangle ABCF and back to A.

How much further do the juniors walk than the infants for each lap?

- A** 75 m **B** 150 m **C** 240 m **D** 300 m **E** 330 m

31

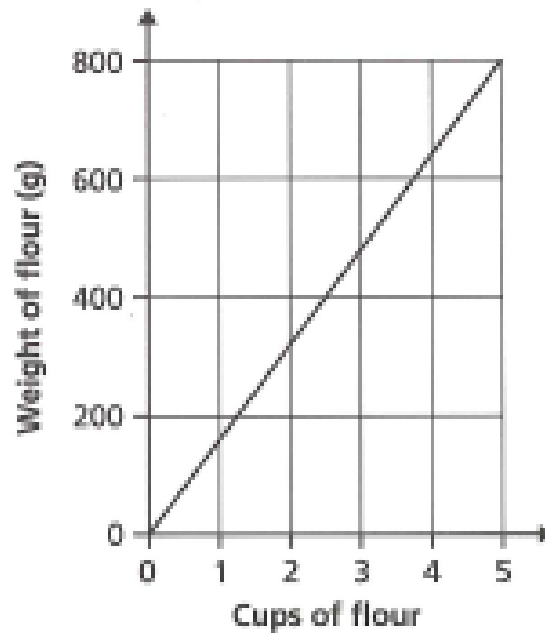


What number is the arrow pointing to on this number line?

- A** 44.5 **B** 47.05 **C** 47.5 **D** 47.65 **E** 53.5

32

This is a graph that converts cups of flour to grams:



Use the graph to work out the equivalent amount of flour in grams for 10 cups?

- A 800g B 1050g C 1250g D 1500g E 1600g
-

33

Look at this number fact:

$$789 \times 36 = 28\,404$$

What is 18×789 ?

- A 7101 B 14202 C 14204 D 14991 E 15774
-

34

Gymnastics Test	
Activity	Maximum Mark
Acrobatics	30
Balance	25
Climbing	25

There is a test to enter a gymnastics competition.
Pupils need to score 75% or more in the test.
Zach scored 24 in Acrobatics and 16 in Balance.
He passed the test.

What was the minimum that he could have scored in the Climbing activity?

- A 20 B 16 C 19 D 15 E 21
-

35

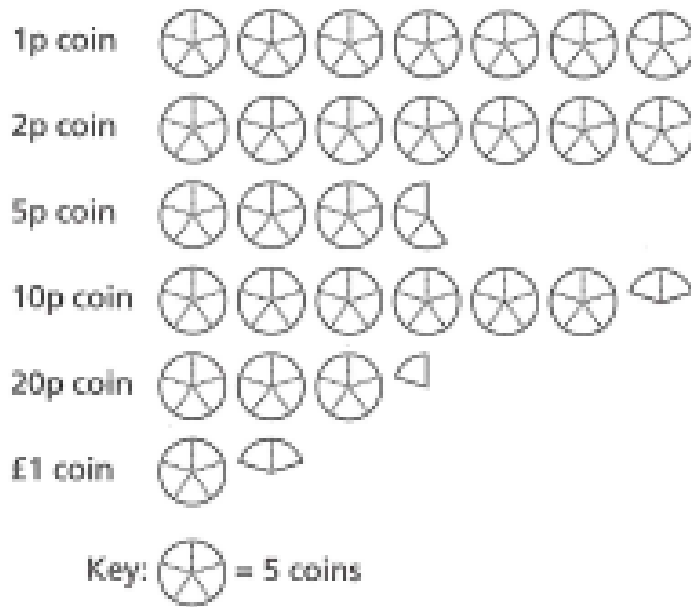
An electric light uses $1\frac{1}{2}$ pence worth of electricity every two hours.
The light is left on from 6 pm on Friday until 6 pm on Sunday.

How much does the electricity cost?

- A 36p B 24p C 12p D 48p E 18p
-

36

Jamie had a lot of different coins in his money box.
He sorted them by type of coin.
He counted the number of coins in each group.
He drew a pictogram to show the results.



Which two groups of coins had the same value?

- A 1p and 2p
- B 2p and 5p
- C 5p and 10p
- D 10p and 20p
- E 20p and £1

37

A two-litre bottle of fruit squash is mixed with four times as much water.

How many 125-millilitre cups can be filled with the diluted squash?

- A 20
- B 80
- C 64
- D 100
- E 40

38

Bulu has a 2D shape.
All of its sides are the same length.

Which of these CANNOT be Bulu's shape?

- A a right-angled triangle
- B an equilateral triangle
- C a square
- D a rectangle
- E a parallelogram

39

A diagram with five cloud-shaped boxes arranged in a circle. Each box contains a question:

- A** Number of centimetres in a kilometre.
- B** Number of millimetres in a kilometre.
- C** Number of grams in a kilogram.
- D** Number of milligrams in a gram.
- E** Number of millilitres in a litre.

Which one of the above is equal to one million?

- A A B B C C D D E E

40

The price of a television is reduced in a sale by 20%.

If the sale price is £160, what was the original price of the television?

- A £128 B £180 C £200 D £192 E £188

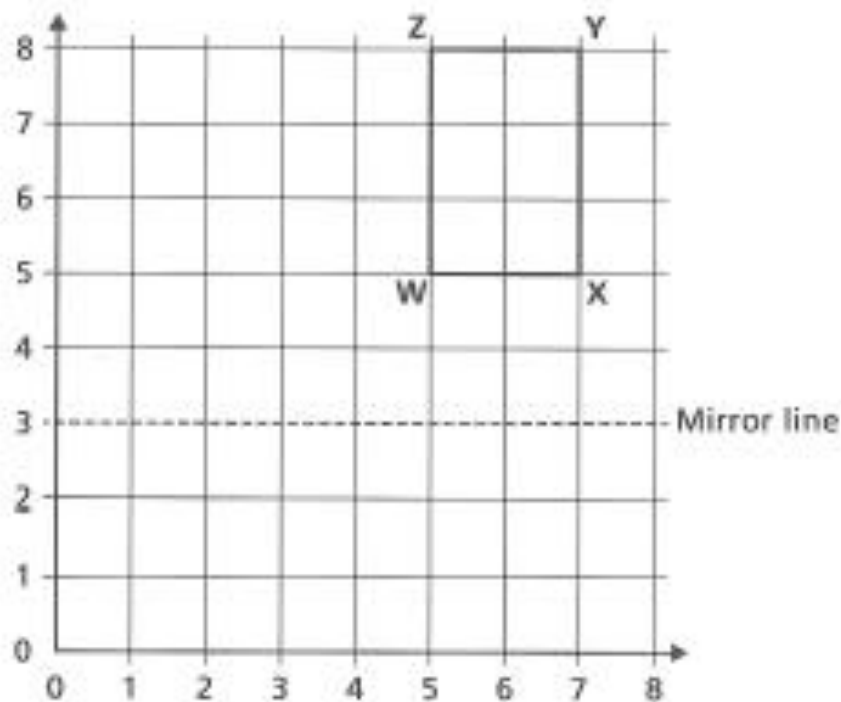
41

Mrs Rai buys five metres of ribbon.
She cuts off three equal pieces and has 20 cm left.

What is the length of each of the three pieces?

- A 480 cm B 1.6 cm C 250 cm D 320 cm E 160 cm
-

42



The rectangle WXYZ is reflected in the mirror line.

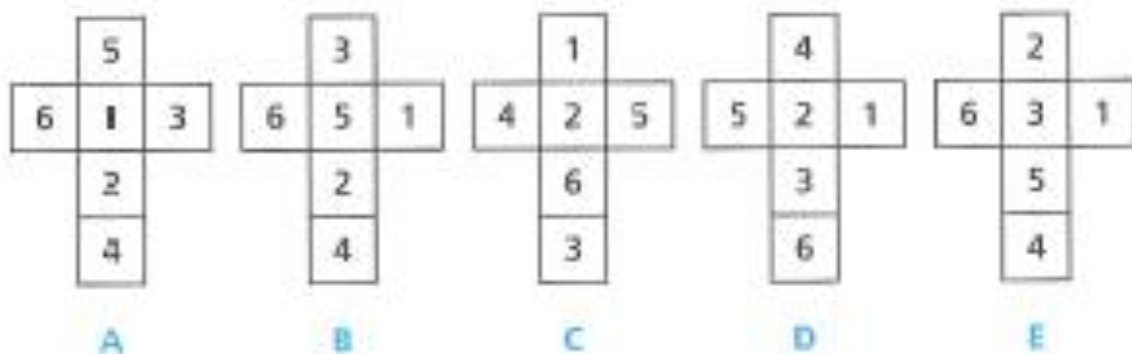
What will the new coordinates of point X be?

- A (7, 1) B (7, 2) C (5, 1) D (2, 7) E (7, 3)
-

43

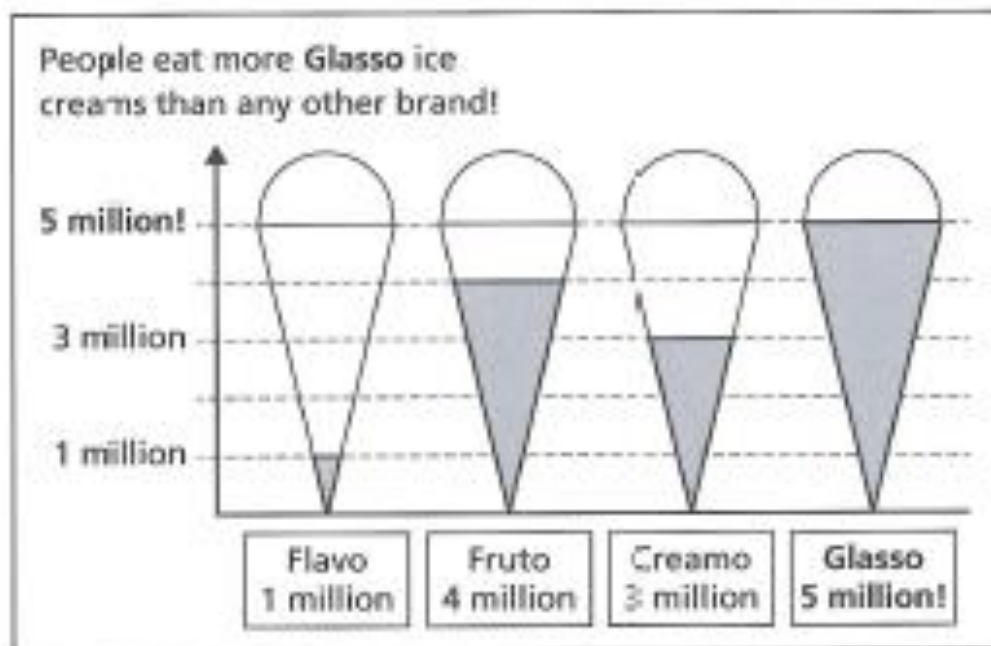
The numbers on the opposite faces of a number cube always add up to 7.

Which of these nets will fold up to make a number cube?



44

This advertisement is misleading.



Why is it misleading?

- A The ice cream cones are unevenly spaced along the horizontal axis.
- B The values along the vertical axis are unevenly spaced.
- C The area for Glasso is more than five times the area for Flavo.
- D It does not show how many will be sold next year.
- E It does not show how many ice lollies or sweets people eat.

45

Cinema tickets for adults cost £10.20.
Children's tickets are half price.

In pounds, how much do the tickets cost for a group of five adults and 10 children?

- A £51 B £102 C £5.10 D £127.50 E £25.50
-

46

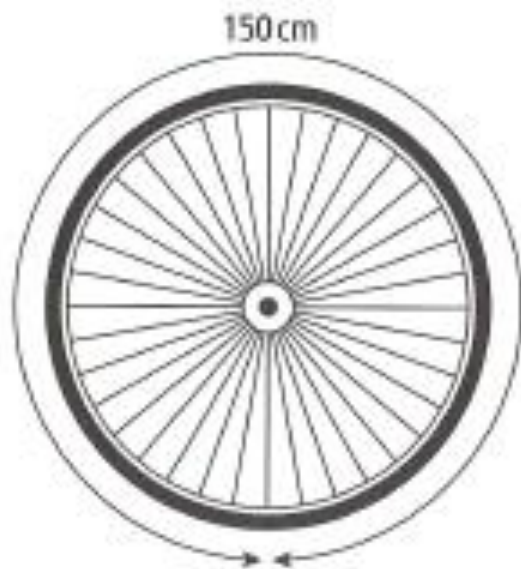
Rosie draws a square on a coordinate grid with corners at (5, 5), (7, 5), (7, 7) and (5, 7).

Which one of these points is inside Rosie's square?

- A (4, 4) B (6, 6) C (6, 8) D (8, 8) E (4, 6)
-

47

The distance around the outside of Fran's bicycle is 150 cm.

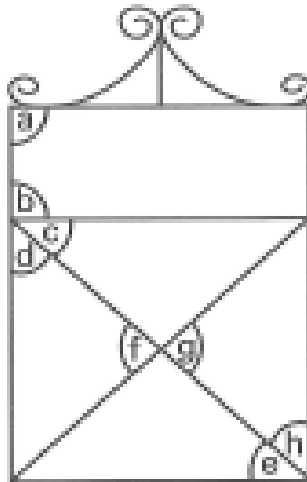


How many complete revolutions must the wheel make for Fran to travel 1.5 km?

- A 1000 B 100 C 10000 D 100000 E 10

48

This shows some angles on a diagram of an iron gate.



Which of these is not necessarily true?

- A $a = c$ B $d = h$ C $a = c + d$ D $e = h$ E $f = g$

49

Look at this number machine:



If the final number is 4, what is the value of N ?

- A 2 B 6 C 4 D 8 E 1

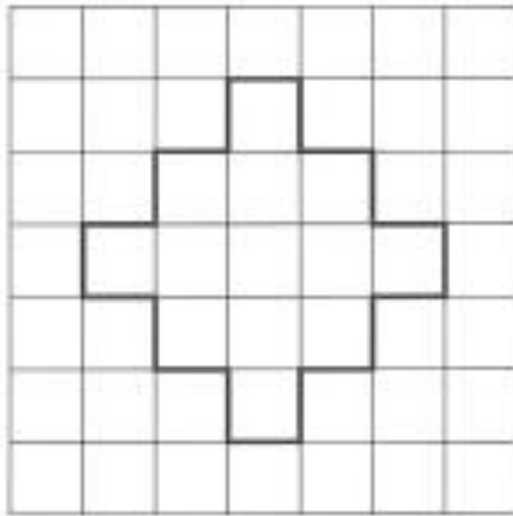
50

A tin of paint costs £6 and will cover five square metres of wall.

What is the cost of painting a wall 4.5m long and 3m high?

- A £12 B £13.50 C £15 D £16.20 E £18

1



Look at this shape drawn on a squares grid.

How many lines of symmetry does the shape have?

A 4

B 1

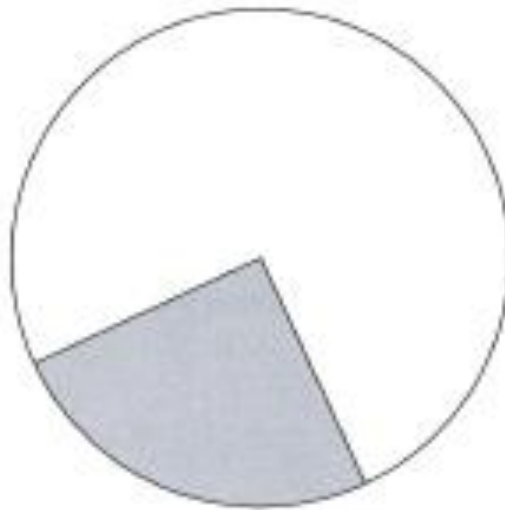
C 8

D 6

E 2

2

What fraction of the circle is shaded?



A $\frac{1}{2}$

B $\frac{1}{3}$

C $\frac{1}{4}$

D $\frac{1}{5}$

E $\frac{1}{6}$

3

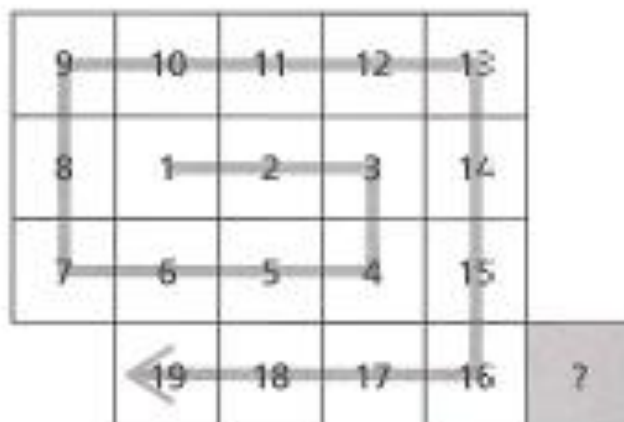
City	Temperature (°C)
Beijing	-6
Cape Town	16
Helsinki	-14
London	4
Mumbai	24

Which two cities have a difference in temperature of 10 degrees?

- A Beijing and Cape Town
- B Beijing and London
- C Cape Town and Helsinki
- D Helsinki and London
- E Helsinki and Mumbai

4

These numbers go round in a spiral.



The spiral goes on.

What number will be to the right of 16 in the spiral?

- A 31
- B 32
- C 33
- D 34
- E 35

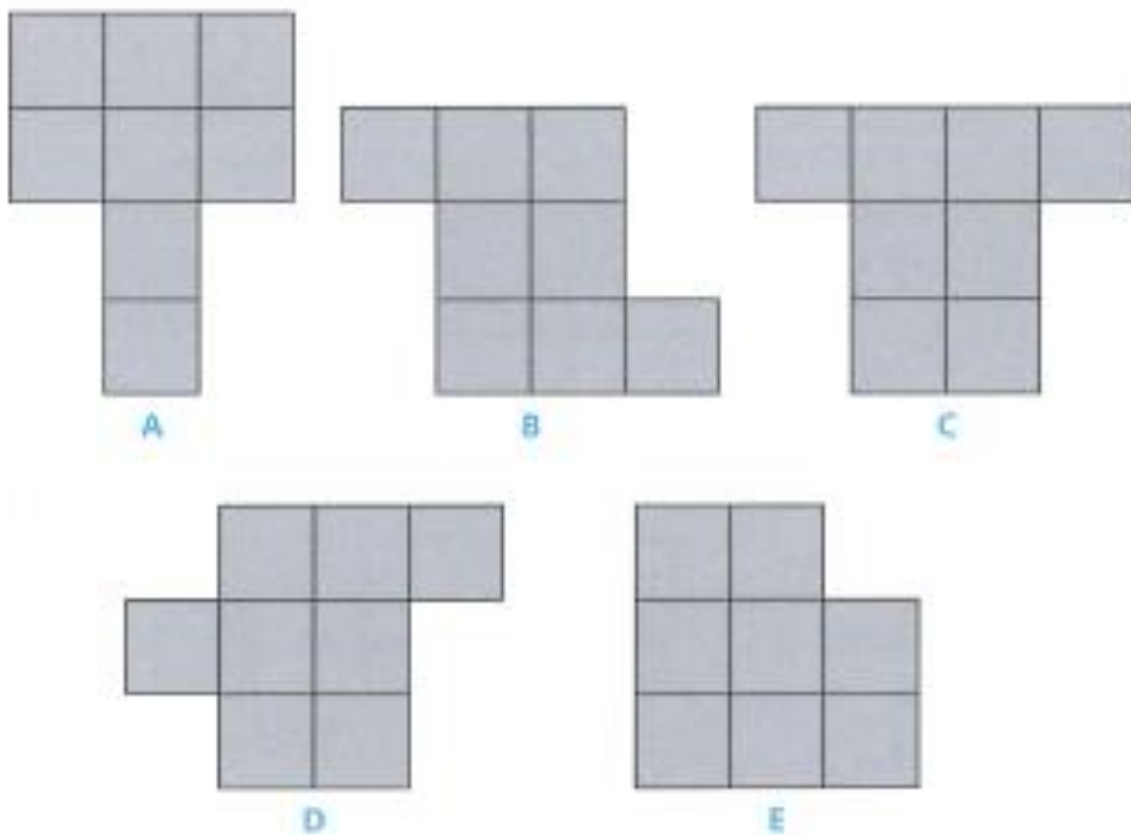
5

Harri has two T-shapes, each made out of four squares.



He fits them together to make another shape.

Which shape can Harri make?



6

What is $13.83 + 4.5$?

A 14.28

B 18.33

C 18.3

D 18.88

E 17.33

7

Estimate the size of this angle.

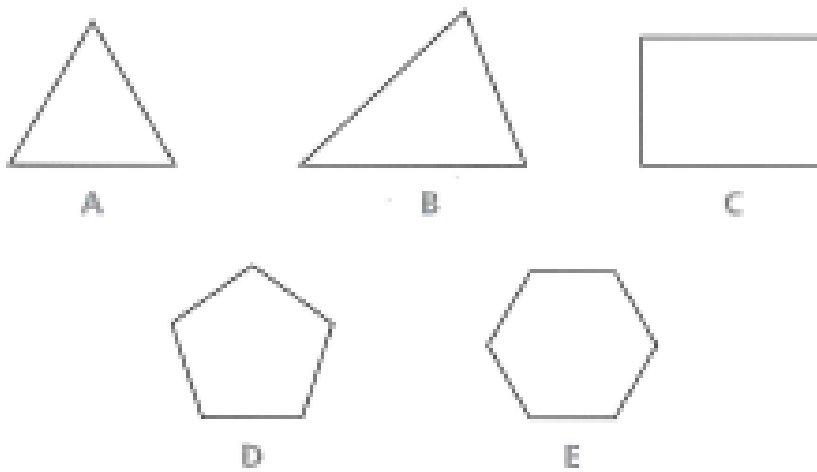
A 10° B 30° C 50° D 70° E 90°

8

Which of these sets of coins has the greatest value?



9



Four of these shapes will fit together with shapes of the same kind, without leaving any gaps.

Which one will NOT?

- A A B B C C D D E E

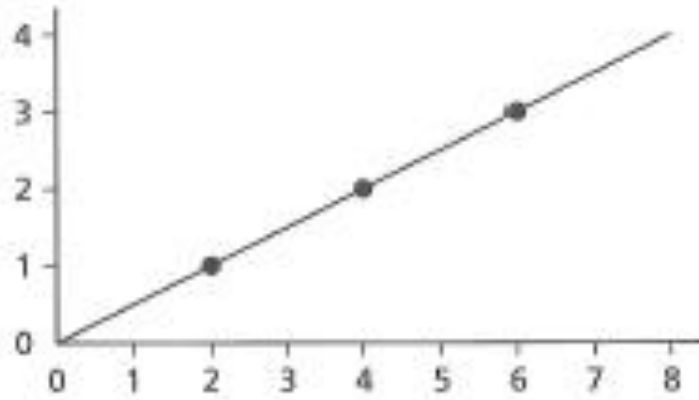
10

A company ordered three cartons of pencils on Monday and seven cartons on Tuesday.
Each carton contained 144 pencils.

How many pencils did the company order altogether?

- A 1008 B 3024 C 1152 D 1011 E 1440

11



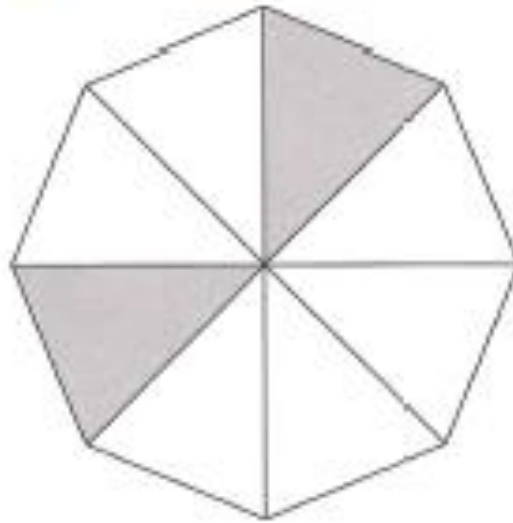
Three points on this line have been plotted at $(2, 1)$, $(4, 2)$ and $(6, 3)$.

Using the same pattern, what are the coordinates of the 10th point?

- A $(10, 5)$ B $(5, 10)$ C $(20, 10)$ D $(10, 20)$ E $(15, 10)$

12

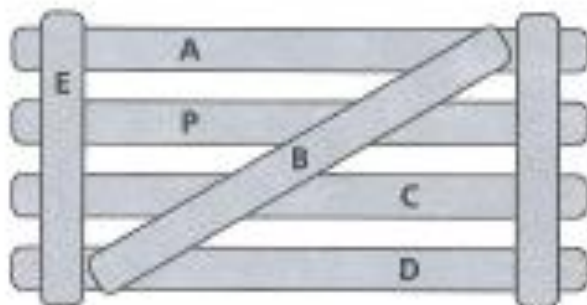
What percentage of this regular octagon is shaded?



- A 10% B 15% C 20% D 25% E 30%

13

This gate is made of seven planks of wood.



Which plank is perpendicular to plank P?

- A A B B C C D D E E

14

Mrs Lee has 212 exercise books.
She packs them into boxes of 30.

How many exercise books does she have left over?

- A 2 B 4 C 6 D 8 E 10

15

Two of the labels are missing from this sorting diagram.

	?	?
Prime		2 3 5 7
Not prime	1 4 9	6 8

Which of these are the missing labels?

- A Odd; Even
B Less than 5; 5 or more
C Prime; Not prime
D Square; Not square
E Whole numbers; Not whole numbers

16

Three pumpkins weigh 13.2 kg, 7.6 kg and 11.4 kg.

What is the total weight of the pumpkins?

- A 32.2 kg B 22.2 kg C 31.2 kg D 21.2 kg E 33.2 kg
-

17

Harpreet wants to measure the area of a photograph in a magazine.

What units should he use?

- A metres
B square metres
C centimetres
D millimetres
E square centimetres
-

18

A poster said:

*It takes
300 kilograms of coal
to run a
100-watt bulb
24 hours a day
for a year.*

*That's equal
to the weight of
three baby elephants!*

How many 100-watt light bulbs could you run for 12 hours a day for a year with 1200 kilograms of coal?

- A 2 B 4 C 6 D 8 E 10

Anita has the following five shapes.



rectangle



right-angled
triangle



parallelogram

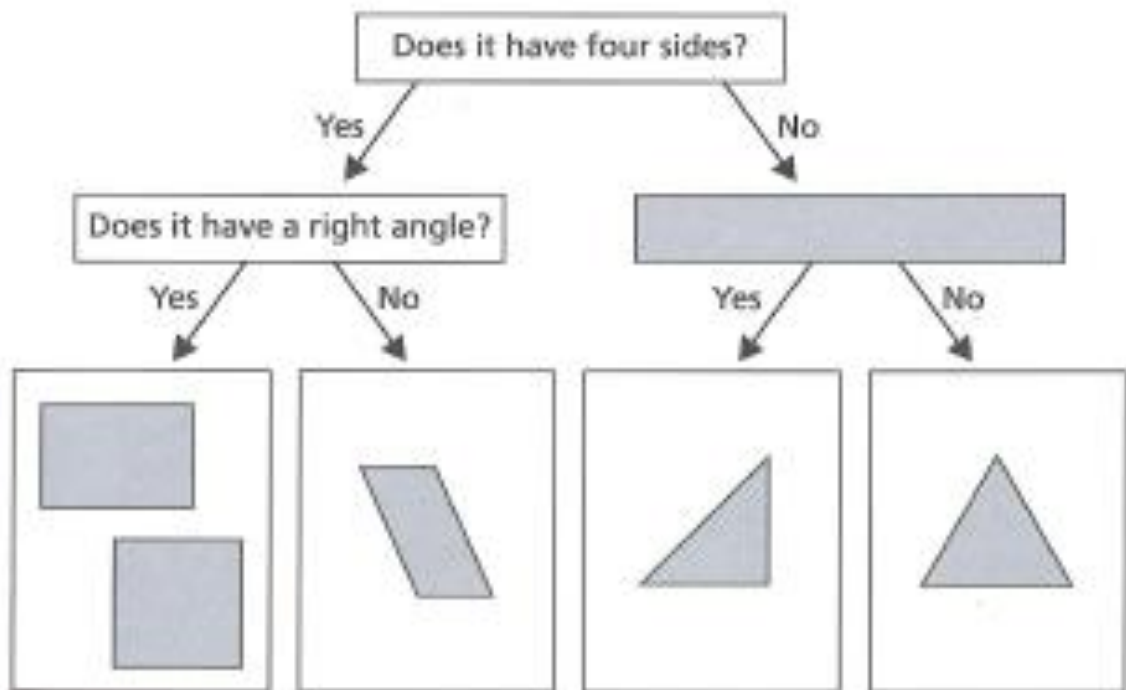


square



equilateral
triangle

She uses a sorting diagram to sort her shapes.



Which of these should be in the shaded box?

- A Does it have a right angle?
- B Does it have fewer than four sides?
- C Are all its sides equal?
- D Does it have two right angles?
- E Is it a triangle?

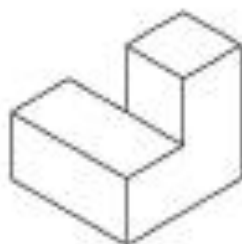
20

Which of these statements is always true?

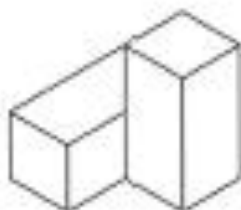
- A If a number ends in a four then it must be a multiple of four.
 - B If the sum of all the digits in a number is a multiple of four then the number must be a multiple of four.
 - C If the last two digits in a number are a multiple of four then the number must be a multiple of four.
 - D If there are at least two fours in a number then it must be a multiple of four.
 - E If a number is even then it must be a multiple of four.
-

21

Look at this shape.



Which one of these is the same shape turned around?



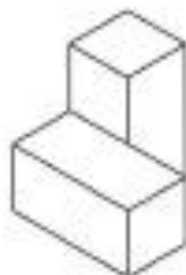
A



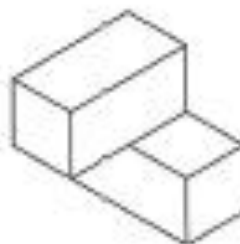
B



C



D



E

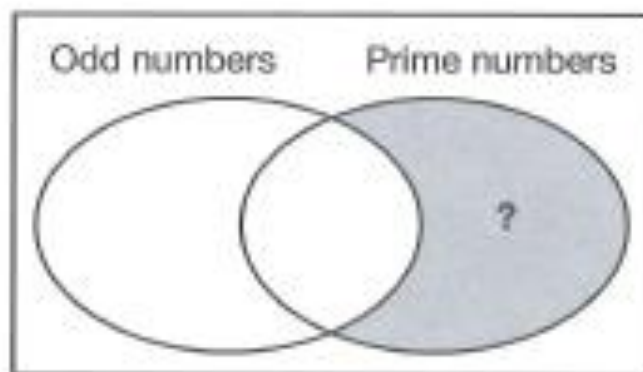
22



What is the formula for the perimeter of this parallelogram?

- A $a + b$ B $2a + 2b$ C $a \times b$ D $a \times 2b$ E $2a \times 2b$

23

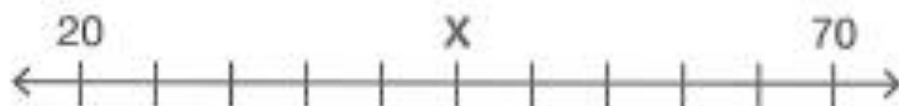


Which of these numbers should go in the shaded area on the Venn diagram?

- A 2 B 3 C 4 D 5 E 6

24

What is the number marked X on this number line?



- A 25 B 35 C 45 D 55 E 65

25

Misa went to the leisure centre.

She used the gym for 50 minutes and then went swimming for 25 minutes.

How long did she exercise altogether?

- A 1 hour and 15 minutes
- B 1.15 hours
- C 7 hours and 5 minutes
- D 7.5 hours
- E 7 hours and 50 minutes

Paper 06 - B

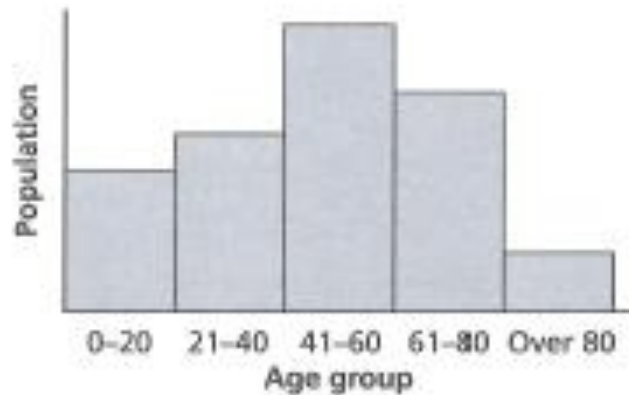
26

Two apples and one orange cost £1. One orange costs 40p.

What is the cost of one apple?

- A 60p B 20p C 40p D 50p E 30p
-

27



The bar chart shows the population of a town by age group.

Which of these age groups have about the same population as the 41-60 age group?

- A 0 to 20
B 21 to 40
C 40 and under
D over 60
E 61 to 80

28

Gemma's calculator displays the following sum:

$$73 - 2\boxed{} = \boxed{}9$$

The calculator works correctly except that one digit always appears as a blank space.

What is the missing digit?

A 3

B 4

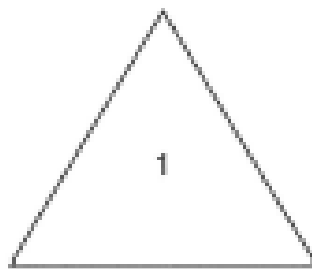
C 5

D 6

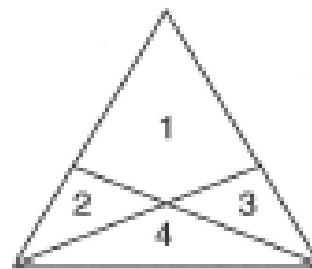
E 7

29

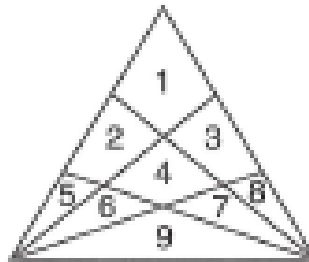
Look at this sequence of triangles.



Triangle 1



Triangle 2



Triangle 3

How many shapes will there be in Triangle 4?

A 36

B 14

C 16

D 25

E 12

30

Catrin started from the number 12 and counted back in steps of 5.

Which of these numbers did she count?

- A 0 B -4 C -2 D -1 E -3
-

31

A swimming club has 50 members.
The table shows some information about them.

	Girls	Boys	Total
Left-handed	2		6
Right-handed			
Total	22		

How many members of the club are right-handed boys?

- A 24 B 20 C 4 D 22 E 28
-

32

$$65 \times 320 = 20\,800$$

What is 6.5×3.2 ?

- A 0.28 B 2.08 C 20.8 D 28 E 208
-

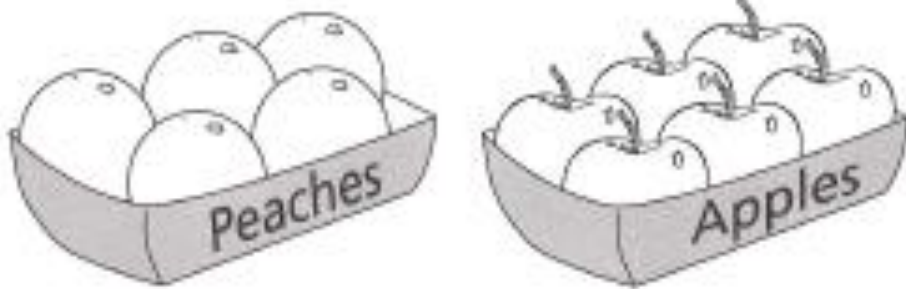
33

On 1st January 2012, Mr Smith started saving £1 every day.

In which year had he saved £1000?

- A 2013 B 2014 C 2015 D 2016 E 2017

34



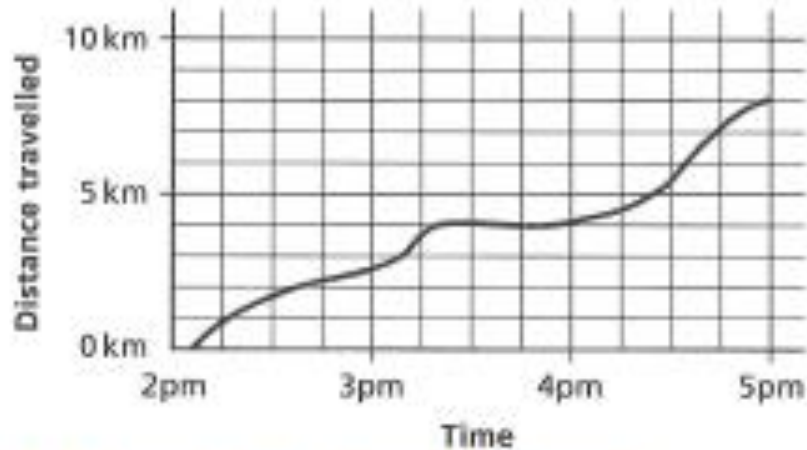
A pack of five peaches costs £2.50.
 A pack of six apples costs £1.50.
 Lucy needs 30 peaches and 30 apples.

How much does she pay?

- A £24.00 B £21.50 C £22.00 D £20.00 E £22.50

35

Steve and Ramesh walked from Sildown to Northmere.
 They stopped in Northmere for a time and then walked back to Sildown.
 The graph shows their journey.



What is the distance from Sildown to Northmere?

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

36

If 30th April is a Wednesday, what day of the week will 30th May be?

- A Friday
 - B Saturday
 - C Thursday
 - D Sunday
 - E Monday
-

37

The table below shows the maximum and minimum temperatures for one week in January.

	Maximum	Minimum
Monday	7°C	0°C
Tuesday	8°C	-3°C
Wednesday	10°C	1°C
Thursday	8°C	-4°C
Friday	6°C	-2°C

Which day shows the greatest difference between minimum and maximum temperatures?

- A Monday
 - B Tuesday
 - C Wednesday
 - D Thursday
 - E Friday
-

38

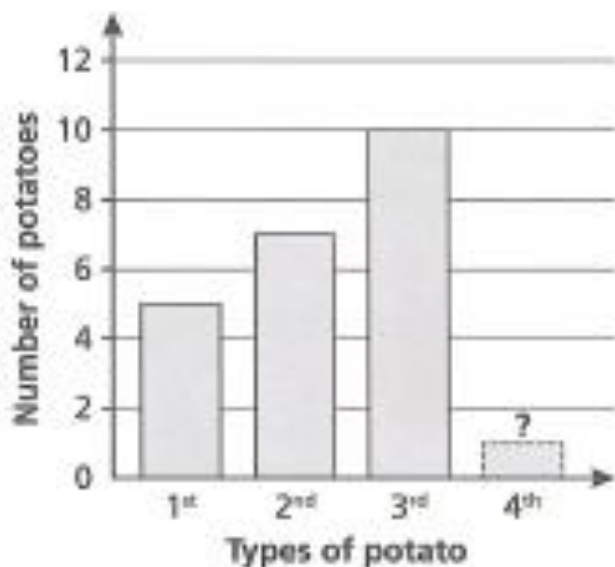
One 5p coin weighs $3\frac{1}{4}$ grams.
Toby has 40 pence worth of 5p coins.

How many grams do they weigh?

- A 13 B $16\frac{1}{4}$ C 26 D 52 E 130

39

Shazia counted out one kilogram of each of four different types of potato. She counted out 32 potatoes in total. The bar chart shows her results for three of the types of potato.



How many potatoes of the 4th type did Shazia count out?

- A 8 B 9 C 10 D 11 E 12
-

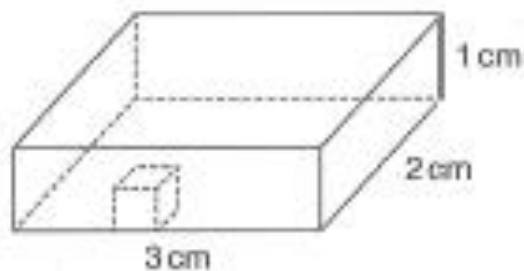
40

$$32 \div 2 < x^2$$

Which of these numbers is the smallest number x could be?

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

41



What is the largest number of cubes of sides 0.5 cm that will fit into the cuboid above?

- A 48 B 12 C 24 D 6 E 96

42

Which of these pairs of numbers are equally distant from 3?

- A 3.01 and 2.91
 B 3.01 and 2.99
 C 3.11 and 2.91
 D 3.11 and 2.99
 E 3.19 and 2.91

43

The original price of a backpack was £81.
 During a sale, the price of the backpack was reduced by £4.50 each week.

After how many weeks would the price of the backpack be $\frac{2}{3}$ of the original price?

- A 9 B 11 C 16 D 8 E 10

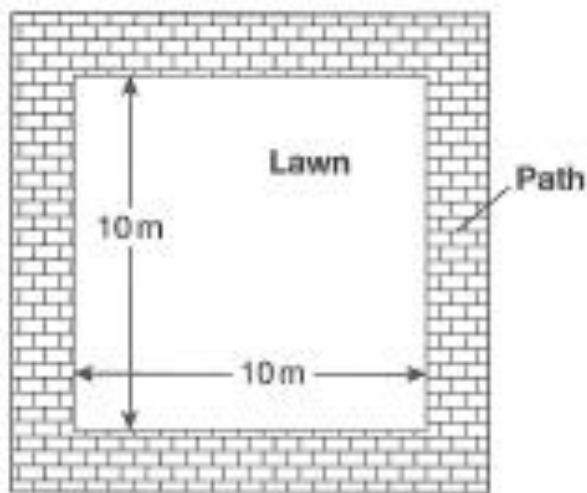
44

In a town, 15% of total household waste is recycled.
 30000 tonnes are recycled.

How many tonnes are NOT recycled?

- A 45000 B 30000 C 200000 D 55000 E 170000

45



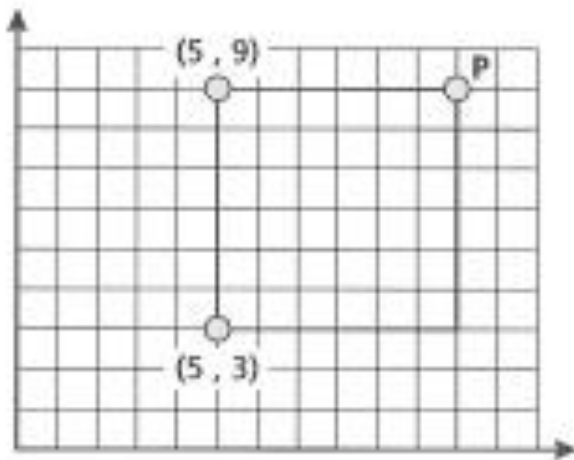
The figure shows a 10 metre by 10 metre lawn surrounded by a path 2 metres wide.

What is the outer perimeter of the path?

- A 40 m B 42 m C 48 m D 52 m E 56 m

46

The diagram shows a square drawn on a square coordinate grid.



What are the coordinates of point P?

- A (9, 11) B (10, 12) C (10, 9) D (11, 9) E (11, 15)

47

Adam sleeps for nine hours each night, five nights a week, and 11 hours for two nights a week.

Which is closest to the percentage of the whole week that Adam spends sleeping?

- A 25% B 30% C 33% D 40% E 50%
-

48

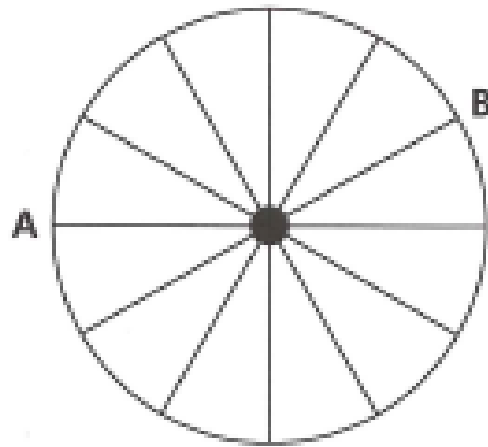
Look at these results for a 150-metre race.

Who came first in the race?

Name	Time
Adi	32.7 seconds
Bethan	32.75 seconds
Carlos	32.57 seconds
Danny	32.71 seconds
Ella	32.07 seconds

- A Adi B Bethan C Carlos D Danny E Ella
-

49



This circle is divided into 12 equal sectors.

What is the smaller angle between point A and point B?

- A 110° B 150° C 120° D 210° E 30°
-

50

A shirt costs £12.30.
The price is reduced by $\frac{1}{3}$.

Which one of these is the lowest amount you need to buy it?

- A £4 B £5 C £7 D £8 E £9