


Practice Paper 1








Mathematics

Read the following carefully:

1. **Do not open or turn over the page in this booklet until you are told to do so.**
 2. This is a multiple-choice test in which you have to mark your answer to each question on the separate answer sheet. You should mark only one answer for each question.
 3. Draw a firm line clearly through the rectangle next to your answer like this . If you make a mistake, rub it out as completely as you can and put in your new answer.
 4. Be sure to keep your place on the answer sheet. Mark your answer in the box that has the same number as the question.
 5. You may not be able to finish all the questions, but try to do as many as you can. If you cannot do a question, **do not waste time on it but go on to the next.** If you are not sure of an answer, choose the one you think is best.
 6. You may do any rough working on a separate sheet of paper.
 7. **Work as quickly and as carefully as you can.**
 8. You will have **50 minutes** to do the test.
-

1

Uplands School did a survey on favourite fruit juice flavours.

| Favourite fruit juice flavour | |
|-------------------------------|---|
| Key: |  stands for 10 children  stands for 5 children |
| Orange |  |
| Apple |  |
| Grapefruit |  |
| Blackcurrant |  |
| Pineapple |  |

How many children liked pineapple flavour best?

- A 10 B 15 C 20 D 25 E 35

2

There are 360 children at Hilltop School.
262 children walk to school. The rest travel by bus or car.

How many children travel by bus or car?

- A 100 B 102 C 108 D 90 E 98

3

Which container will hold about 5 litres?

- A a teapot
B a bucket
C a milk bottle
D a teacup
E a teaspoon

4

In 2015, 53 children went on a school trip.
In 2016, twice as many went as in 2015.
In 2017, twice as many went as in 2016.

How many children went in 2017?

- A 203 B 106 C 309 D 159 E 212
-

5

Which number is divisible by both 5 and 10?

- A 5 B 25 C 32 D 40 E 55
-

6

Mr Miller's supermarket bill is £17.03.
At the checkout, he uses some vouchers to reduce his bill by £1.45.

What is the new amount he has to pay?

- A £16.68 B £15.68 C £16.42 D £15.58 E £16.02
-

7

A newspaper showed temperatures in 12 cities on a day in December:

| | |
|------------------|------------------|
| London 5 °C | Glasgow -3 °C |
| Newcastle -6 °C | Birmingham 4 °C |
| Cardiff 6 °C | Edinburgh -7 °C |
| Leicester 3 °C | Leeds -4 °C |
| Southampton 7 °C | Manchester -1 °C |
| Liverpool 2 °C | York -5 °C |

Which was the coldest?

- A Manchester
B Glasgow
C York
D Edinburgh
E Newcastle

8

Which answer has three numbers that are all multiples of 3 or 4?

- A 8, 9, 10
- B 9, 10, 12
- C 8, 12, 16
- D 12, 14, 16
- E 14, 15, 16

9

Which of the five large letters has TWO lines of symmetry?

I K U Y W

- A I
- B K
- C U
- D Y
- E W

10

Sarah collected the following data during a survey of her friends.

| | Favourite Subject | | |
|-------|-------------------|-------|---------|
| | Science | Maths | English |
| Boys | 28 | 6 | 14 |
| Girls | 20 | ? | 10 |

100 pupils completed the survey.

How many girls gave Maths as their favourite subject?

- A 44
- B 18
- C 22
- D 6
- E 32

11

I bought 8 small packets of sweets.
I was given £2.40 change from £10.

How much did each packet cost?

- A 96p B 85p C 86p D 95p E 30p
-

12

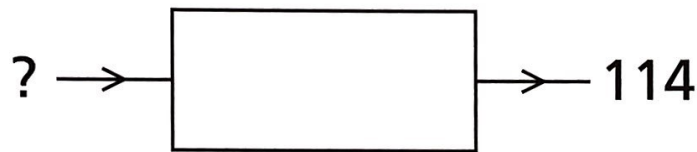
Ranjit has a 50-pence piece, two 20-pence pieces, one 10-pence piece and two 2-pence pieces.

How much money does he have?

- A £0.82 B £1.04 C £1.20 D £1.40 E £1.02
-

13

This machine doubles and then adds 2.



Which number has been put in?

- A 57 B 59 C 52 D 54 E 56
-

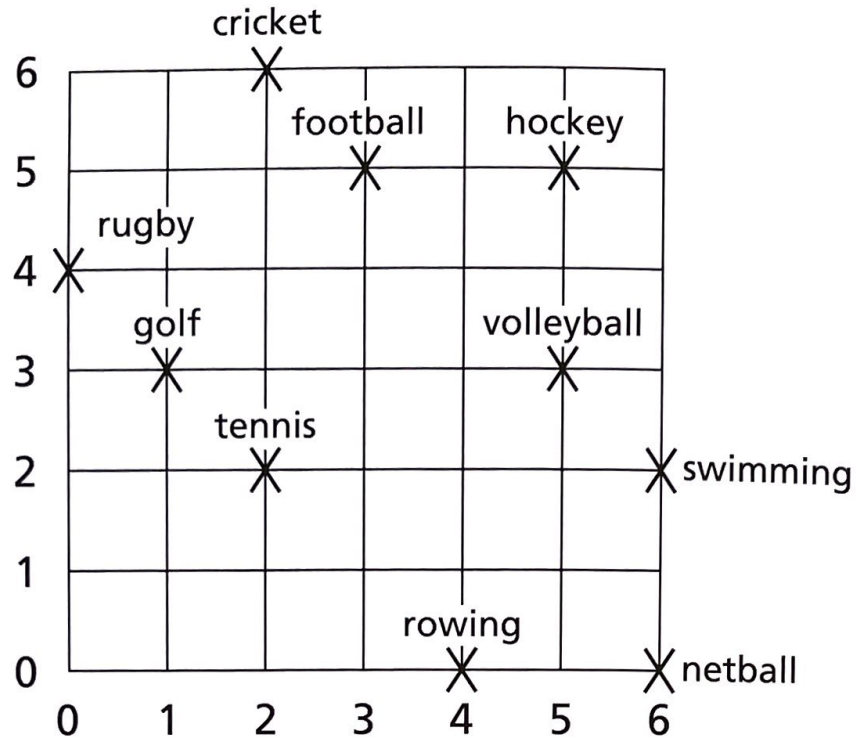
14

School books are being packed in separate parcels, each one containing 6 books.

How many parcels are needed for 960 books?

- A 5760 B 160 C 120 D 320 E 954

15



Name the sports at these coordinates:

(2 , 6), (3 , 5), (0 , 4)

- A swimming, volleyball, rowing
- B swimming, football, rowing
- C cricket, football, rugby
- D cricket, volleyball, rowing
- E swimming, football, rugby

16

A gardener looks after 100 flower beds.
She plants 412 bulbs in each bed.

How many bulbs does she plant?

- A 512
- B 40 012
- C 41 200
- D 41 012
- E 4120

17

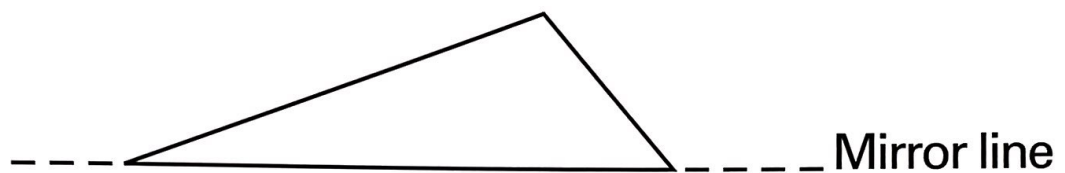
Batteries cost 89p each.

How much will 7 batteries cost?

- A £7.83
- B 96p
- C £5.63
- D £6.23
- E £6.41

18

Tom has drawn a triangle.
He reflects it in the mirror line.

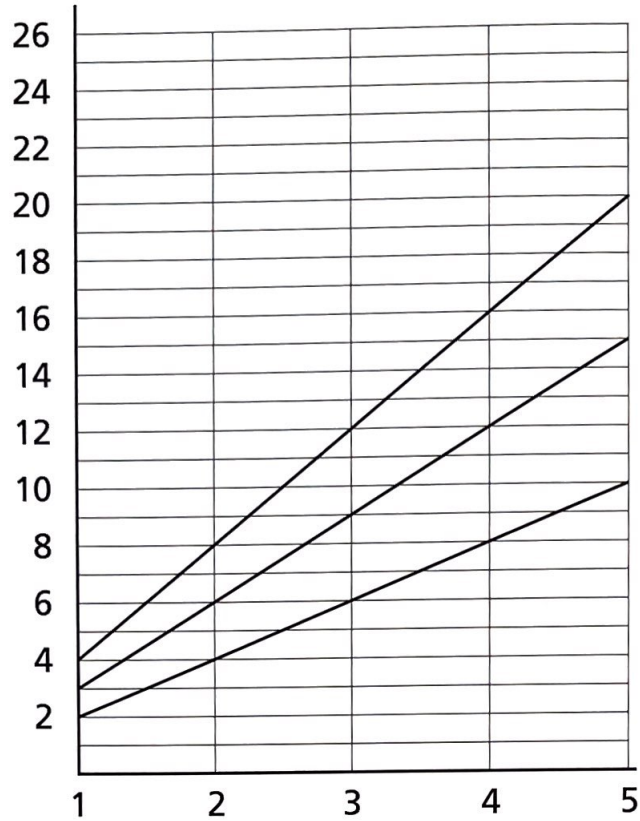


He ends up with a quadrilateral.

What type of quadrilateral is it?

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

19



This graph shows multiplication tables.
The three lines shown start at 2, 3 and 4.

If a line starts at 5, what height will it reach on the y-axis?

- A** 21 **B** 20 **C** 23 **D** 26 **E** 25

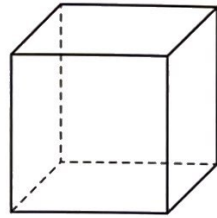
20

Paul draws a plan of his school using a scale of 2 cm to 5 m.
On the plan, the school hall is 6 cm long.

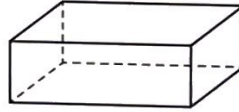
What is the real length of the hall?

- A** 15 m **B** 6 m **C** 18 m **D** 9 m **E** 12 m

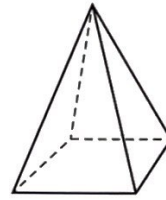
21



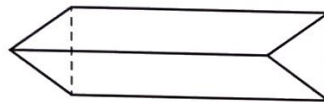
cube
A



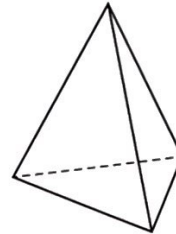
cuboid
B



square-based
pyramid
C



triangular
prism
D



triangular
pyramid
E

Which solid shape has 5 faces and 9 edges?

A A

B B

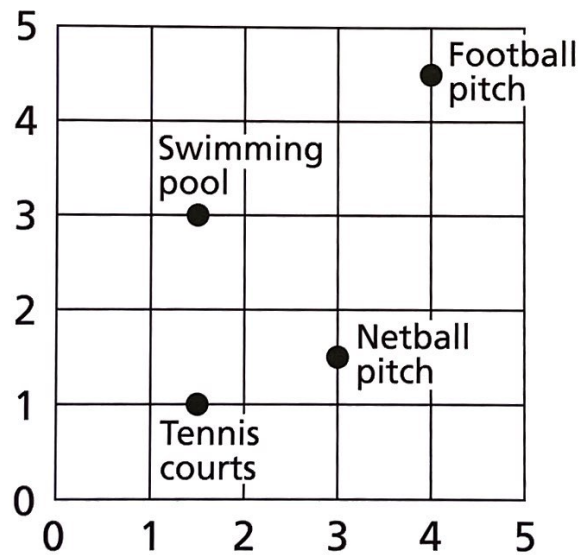
C C

D D

E E

22

This graph shows a sports ground.



Where is the netball pitch?

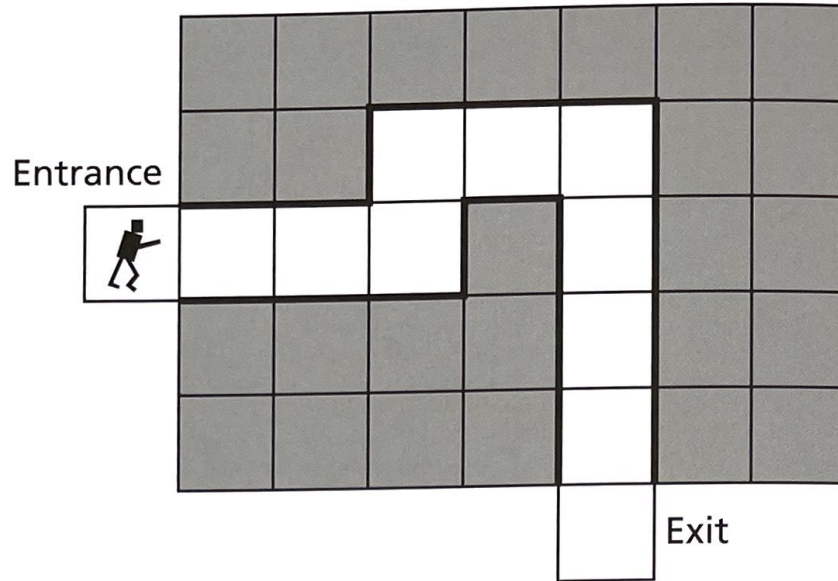
A (1, 3)

B (3, 1½)

C (3, 1)

D (1½, 3)

E (3½, 1½)



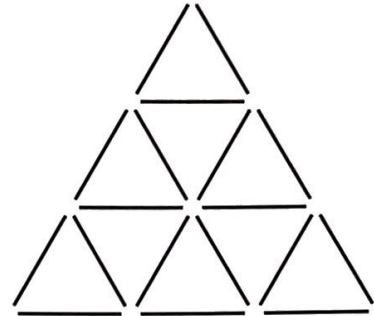
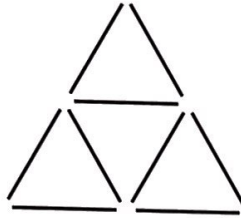
Balbir wants to guide a robot along the white squares through this maze. The robot starts on the square marked 'Entrance' and must finish on the square marked 'Exit'.

It can only move FORWARD, TURN RIGHT 90° and TURN LEFT 90°.

Which instructions will guide the robot through the maze?

- A** FORWARD 4, TURN LEFT 90°, FORWARD 2, TURN RIGHT 90°, FORWARD 3, TURN RIGHT 90°, FORWARD 5.
- B** FORWARD 3, TURN RIGHT 90°, FORWARD 1, TURN RIGHT 90°, FORWARD 3, TURN LEFT 90°, FORWARD 3.
- C** FORWARD 3, TURN LEFT 90°, FORWARD 1, TURN RIGHT 90°, FORWARD 2, TURN RIGHT 90°, FORWARD 4.
- D** FORWARD 3, TURN RIGHT 90°, FORWARD 1, TURN LEFT 90°, FORWARD 2, TURN LEFT 90°, FORWARD 4.
- E** FORWARD 3, TURN LEFT 90°, FORWARD 1, TURN RIGHT 90°, FORWARD 3, TURN RIGHT 90°, FORWARD 4.

24



How many matchsticks are needed altogether to make the next shape in this sequence?

- A 33 B 36 C 27 D 48 E 30

25

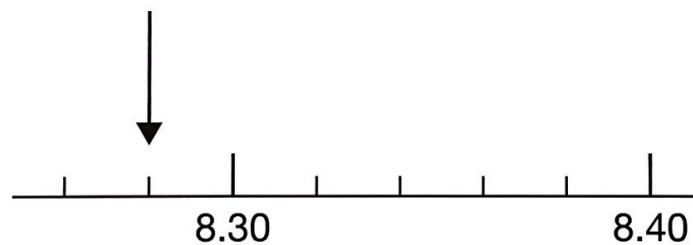
You multiply a number by itself.
The answer is then multiplied by the number you started with.
The new number is 64.

What number did you start with?

- A 2 B 4 C 6 D 8 E 16

26

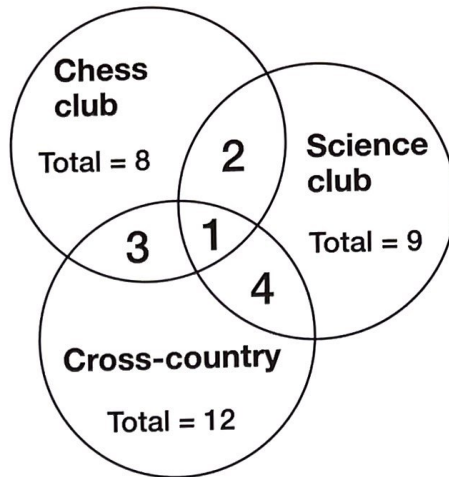
Look at this number line.



What number does the arrow point to?

- A 8.80 B 8.29 C 8.26 D 8.28 E 8.08

27



24 children in a class are asked what activities they do.

How many do no activities?

- A 6 B 5 C 4 D 2 E 3

28

There are 200 pupils at a school sports day.
 $\frac{2}{5}$ of them run in the relay race.

How many pupils run in the race?

- A 100 B 40 C 50 D 80 E 25

29

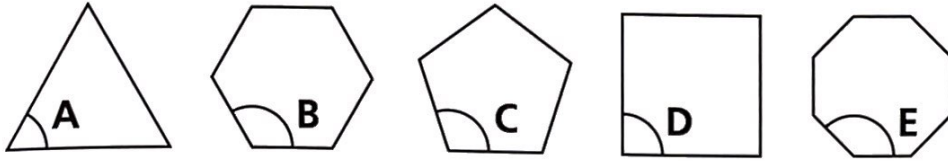
This is a 'magic square' where the numbers in the rows and columns follow a logical sequence.

| | | |
|---|----|----|
| 3 | 6 | 9 |
| 6 | ? | 12 |
| 9 | 12 | 15 |

What is the missing number?

- A 15 B 3 C 9 D 12 E 6

30



If the above angles were arranged in order of size, which would be in the middle?

- A A B B C C D D E E

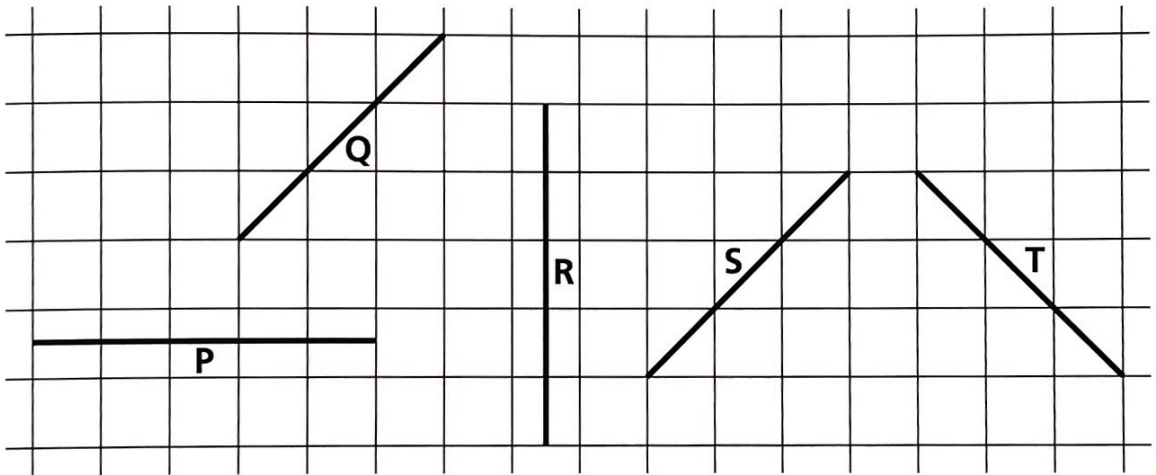
31

Iva plants 216 seedlings.
 $\frac{3}{8}$ of them are killed by frost.

How many seedlings survive?

- A 178 B 135 C 133 D 81 E 82

32



Which of these statements is correct?

- A Line P is a vertical line.
B Line R is a horizontal line.
C Line Q is perpendicular to line P.
D Line S is parallel to line T.
E Line T is perpendicular to line Q.

33

These are the months of the year:

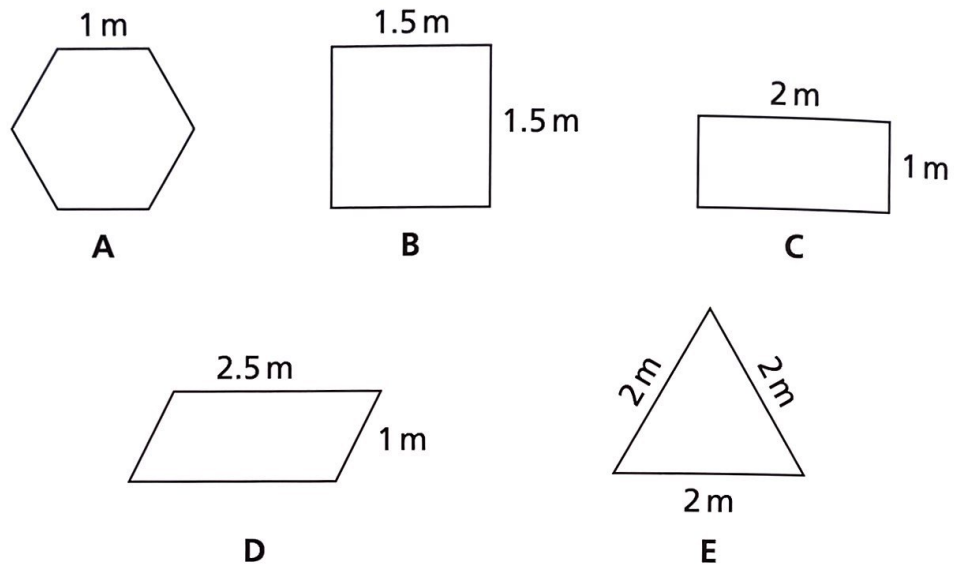
January February March April May June July

August September October November December

What percentage of the months begin with J?

- A 12% B 3% C 30% D 25% E 20%

34



Four of the shapes above have the same perimeter.

Which shape has a different perimeter from the others?

- A A B B C C D D E E

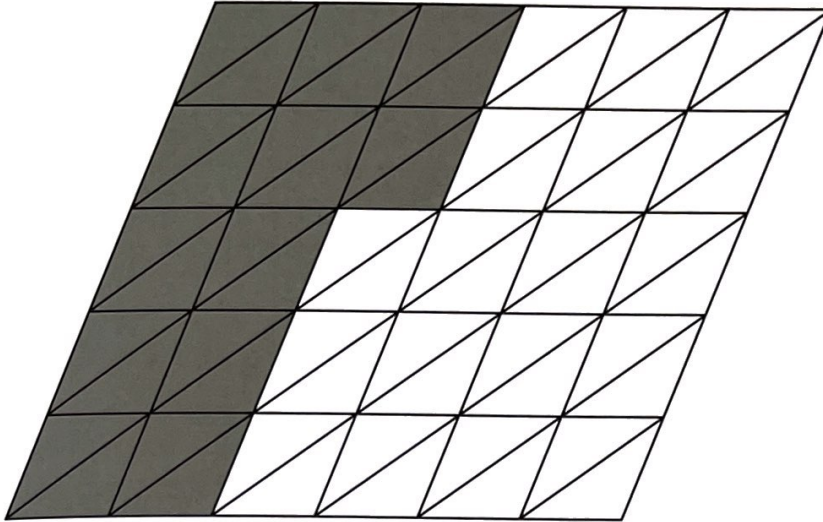
35

On holiday, Mr Baker buys some perfume for 30 dollars and a book for 9 dollars. He calculates that the perfume cost £20.00 and the book cost £6.00.

How much would a 15-dollar T-shirt cost in pounds?

- A £9.00 B £10.00 C £11.00 D £12.00 E £13.00

36



What percentage of this grid is shaded?

- A 40% B 24% C 30% D 20% E 48%

37

Mrs Morgan is 5 feet 7 inches tall.

If 1 foot is 30.5 cm and 1 inch is 2.5 cm, which is closest to her height in metres?

- A 1.3m B 1.4m C 2m D 1.6m E 1.7m

38

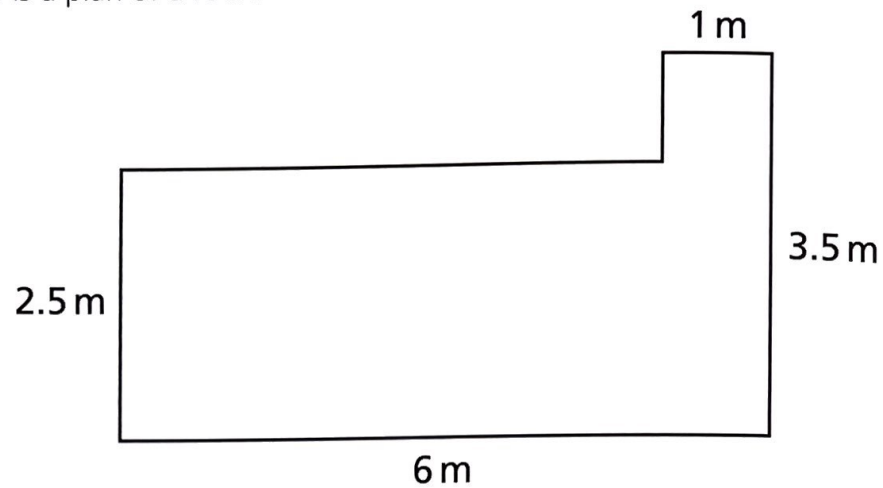
Hanif will be 17 years old, 7 years from now.

How old was he 7 years ago?

- A 3 B 6 C 7 D 8 E 10

39

This is a plan of a room.



What area of carpet will be needed?

A 13 m^2

B 18.5 m^2

C 15 m^2

D 21 m^2

E 16 m^2

40

$$81 \cdot 3 - 16 \cdot \square 9 =$$

$$6 \square \cdot 81$$

Gemma's calculator displays the sum entered and the answer.

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

What is the missing digit?

A 7

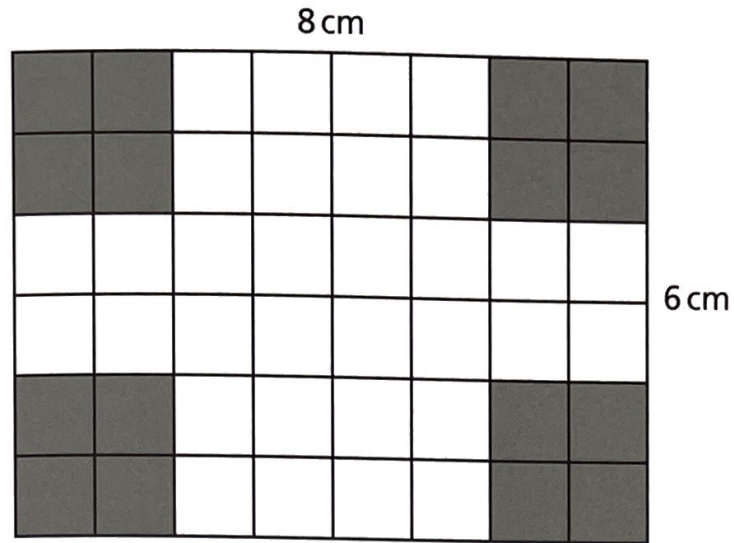
B 4

C 0

D 2

E 5

41



The shaded corners are cut out of this flat shape.
It is then folded to make a small open box.

What is the capacity of the box?

- A 32 cm^3 B 48 cm^3 C 24 cm^3 D 14 cm^3 E 16 cm^3

42

| | Prime number | Square number | Cube number |
|---|--------------|---------------|-------------|
| A | 25 | 17 | 1 |
| B | 21 | 16 | 7 |
| C | 29 | 30 | 8 |
| D | 27 | 25 | 16 |
| E | 29 | 36 | 27 |

Which row shows a prime number, a square number and a cube number in the correct order?

- A A B B C C D D E E

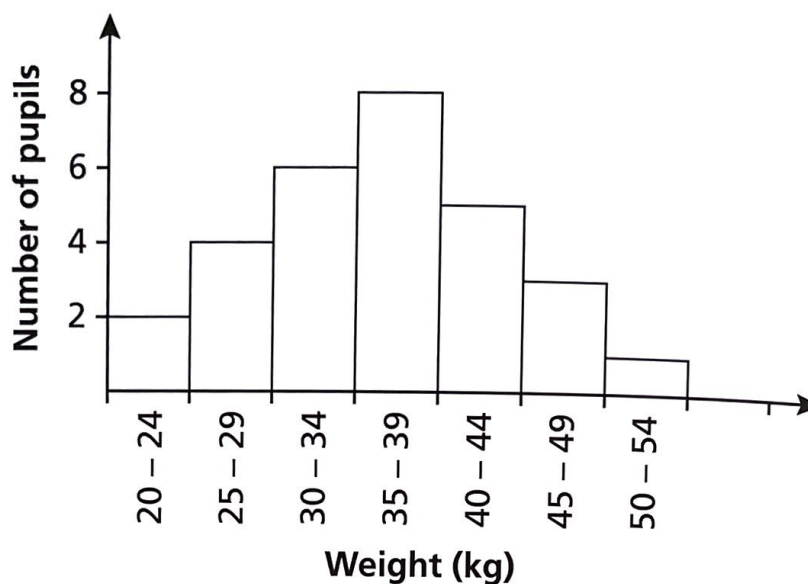
43

Which of these numbers is closest in value to 1?

- A 1.1 B 0.98 C 0.9 D 1.09 E 1.9

44

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



Which statement **MUST** be true?

- A 8 children weigh between 35 kg and 39 kg.
B 8 children weigh more than 40 kg, but less than 45 kg.
C 1 child weighs exactly 55 kg.
D No children weigh less than 21 kg.
E 5 children weigh at least 45 kg, but less than 50.5 kg.

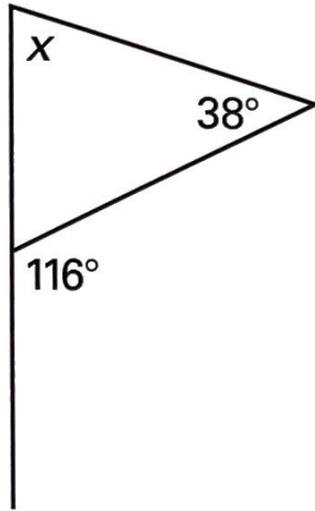
45

Round this number to the nearest tenth.

4.13

- A 4.1 B 4.3 C 4.13 D 5.13 E 4.2

46

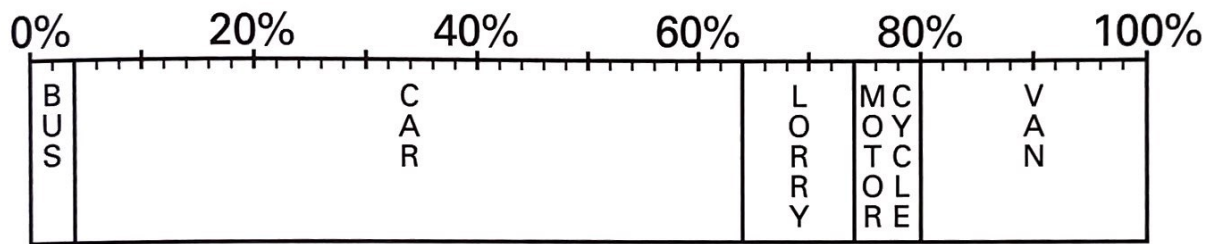


What is the size of angle x ?

- A 71° B 26° C 78° D 54° E 66°

47

Thomas walks to school each day.
One morning he recorded the types of vehicle that passed him.
He drew this chart to show the data.

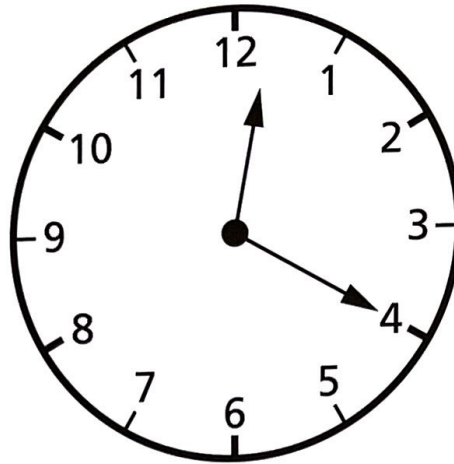


50 vehicles passed him altogether.

How many more cars were there than all other vehicles added together?

- A 12 B 20 C 6 D 10 E 14

48



Marcus is working out the angles between the hands of a clock.
The clock shows twenty past twelve.

What is the smaller angle formed by the hands?

- A** 100° **B** 130° **C** 105° **D** 120° **E** 110°
-

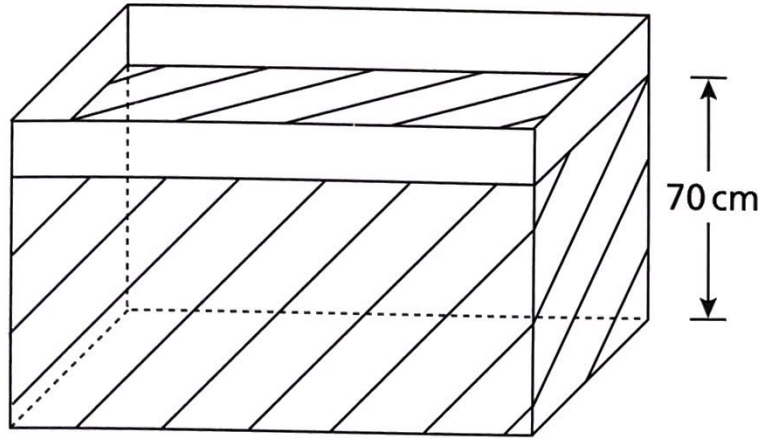
49

What is the fifth term in this sequence?

319 193 67

- A** -175 **B** -69 **C** -185 **D** -59 **E** -101
-

50



A rectangular water tank is filled to a depth of 70 cm.
It contains 1050 litres of water.
Some water is taken out of the tank.
The water level drops by 25 cm.

How much water is left in the tank?

- A 625 litres
- B 375 litres
- C 525 litres
- D 270 litres
- E 675 litres