


## Practice Paper 3

# Mathematics

Read the following carefully:

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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

12 345

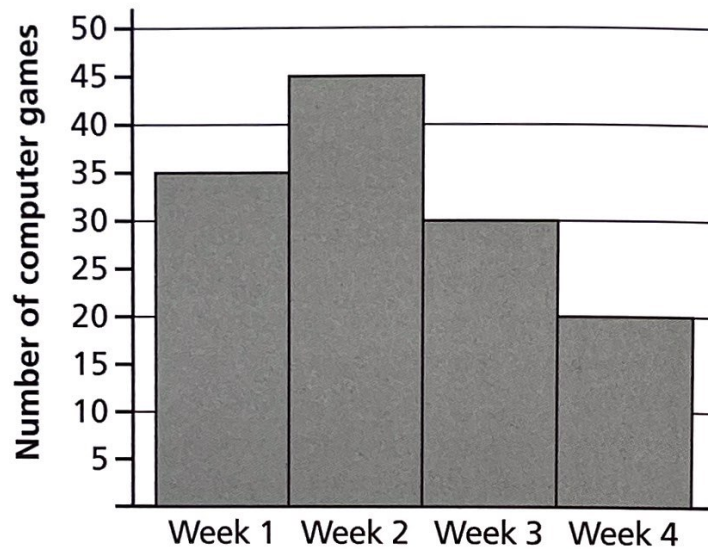
The 2 in this number is worth 2000.

What is the 3 worth?

- A 3000      B 30      C 12 300      D 3      E 300

2

This graph shows the number of computer games sold by a shop in four weeks.



How many more computer games were sold in week 1 than in week 4?

- A 3      B 15      C 10      D 25      E 30

3

Twenty-four thousand, seven hundred and six.

Which answer shows this written as a number?

- A 24 706      B 2476      C 24 760      D 2470.6      E 24 700.6

4

How many fives are there in 870?

- A 87                  B 169                  C 435                  D 174                  E 56
- 

5

Which of these numbers has the smallest value?

- A 1.01                  B 0.99                  C 0.02                  D 1.25                  E 0.5
- 

6

Claire packed her rucksack for a day's hike in the country.

It contained a flask of hot tea, some sandwiches, two apples, a banana and a bar of chocolate.

She also packed some waterproof clothes.

**Roughly, how much is the rucksack likely to weigh?**

- A 3 kg                  B 300g                  C 30 kg                  D 300 kg                  E 3 g
- 

7

This machine multiplies by 3 and then subtracts 6.



**Which number has been put in?**

- A 84                  B 42                  C 82                  D 48                  E 36
-

8

In a concert hall, there are 592 seats.  
306 tickets are sold in advance.  
178 tickets are sold at the door.

**How many empty chairs are there during the concert?**

- A 286      B 108      C 464      D 180      E 414

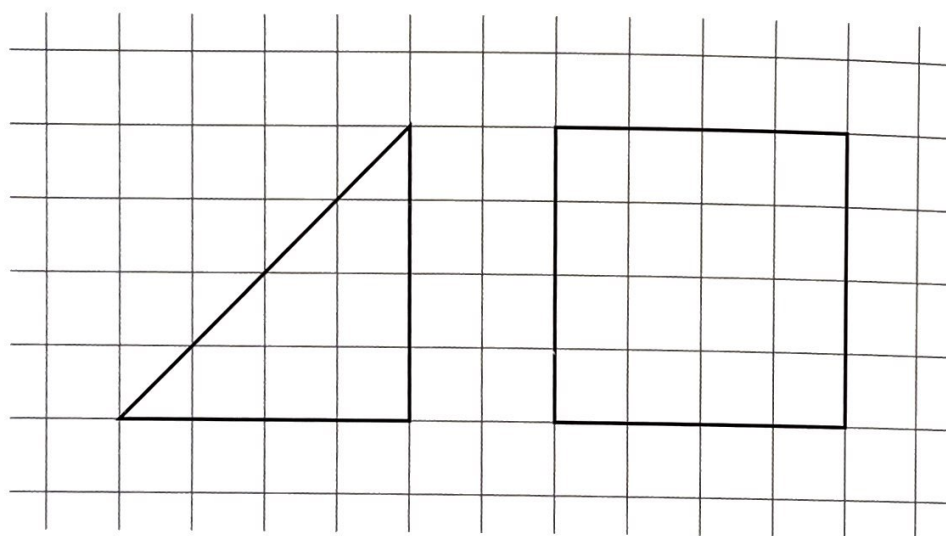
9

There are 12 eggs in a dozen.

**How many eggs are there in four and a half dozen?**

- A 45      B 48      C 50      D 60      E 54

10



In this diagram, one small square represents  $1 \text{ cm}^2$ .

**What is the difference in area between these two shapes?**

- A  $20 \text{ cm}^2$       B  $16 \text{ cm}^2$       C  $8 \text{ cm}^2$       D  $2 \text{ cm}^2$       E  $4 \text{ cm}^2$

11

Gemma and Li did a survey on favourite pizza toppings.

Favourite Pizza Toppings	
Key: ○ stands for 6 children D stands for 3 children	
Cheese and tomato	○○○○○
Tuna and sweetcorn	○○○○D
Hot and spicy pepperoni	○○
Tomato, mushroom and onion	○○D
Hawaiian pineapple	○○○○D

How many children liked tuna and sweetcorn best?

- A 27      B 5      C 9      D  $4\frac{1}{2}$       E 24

12

Today's temperature is  $3^{\circ}\text{C}$ .

Yesterday, it was  $-4^{\circ}\text{C}$ .

What is the difference between these two temperatures?

- A  $1^{\circ}\text{C}$       B  $-1^{\circ}\text{C}$       C  $7^{\circ}\text{C}$       D  $-7^{\circ}\text{C}$       E  $-4^{\circ}\text{C}$

13

Which answer has three numbers that are all cube numbers?

- A 8, 16, 32
- B 8, 27, 64
- C 16, 32, 64
- D 9, 27, 64
- E 5, 25, 125

14

Which fraction has the largest value?

- A  $\frac{1}{2}$
- B  $\frac{3}{4}$
- C  $\frac{5}{8}$
- D  $\frac{10}{12}$
- E  $\frac{4}{6}$

15

Liam halves his dad's age.  
He then adds 7.  
The result is 26.

How old is his dad?

- A 38
- B 19
- C 33
- D 21
- E 39

16

Which of these words has a vertical line of symmetry?

TOT  
ON  
BIB  
OF  
BE

- A TOT
- B ON
- C BIB
- D OF
- E BE

# 17

There are 30 pupils in a class.

$\frac{1}{5}$  go home for lunch.

$\frac{2}{5}$  buy a school lunch.

The rest bring sandwiches.

**How many pupils bring sandwiches?**

**A** 6

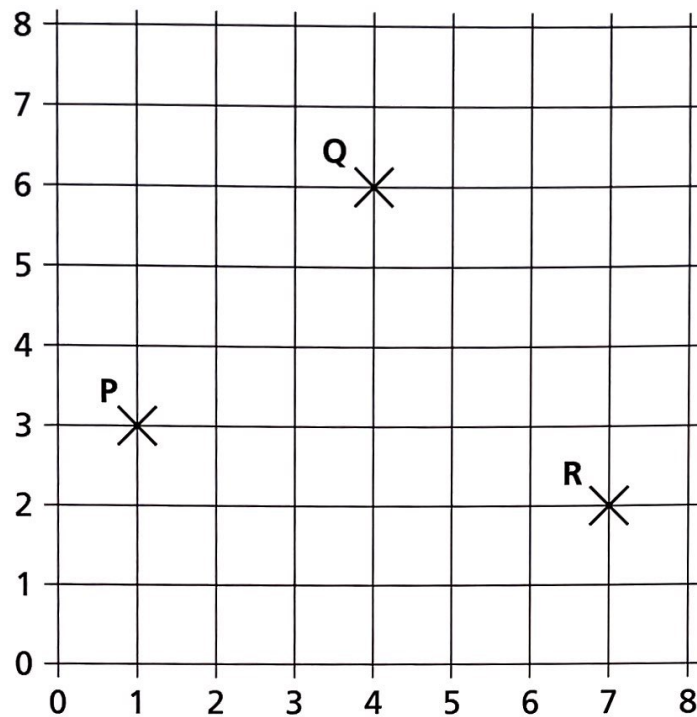
**B** 18

**C** 12

**D** 2

**E** 5

# 18



**What are the coordinates of P, Q and R?**

**A** P (3 , 1) Q (6 , 4) R (2 , 7)

**B** P (1 , 2) Q (4 , 6) R (7 , 1)

**C** P (1 , 3) Q (4 , 6) R (7 , 2)

**D** P (1 , 3) Q (7 , 2) R (4 , 6)

**E** P (1 , 3) Q (4 , 6) R (2 , 7)

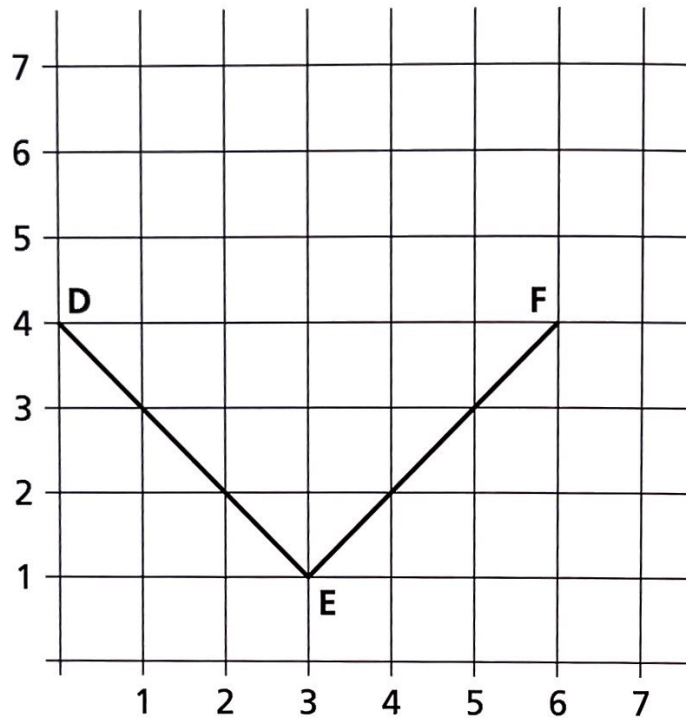
# 19

The kitchen clock says 5 o'clock.

**What is the smaller angle between the clock hands?**

- A  $135^\circ$       B  $155^\circ$       C  $150^\circ$       D  $165^\circ$       E  $130^\circ$

# 20



When point G is added, DEFG is a square.

**What are the coordinates of point G?**

- A (7, 3)      B (4, 6)      C (2, 7)      D (3, 7)      E (4, 7)

# 21

The Hassan family has two pints of milk delivered every day. Milk costs 41p for a pint.

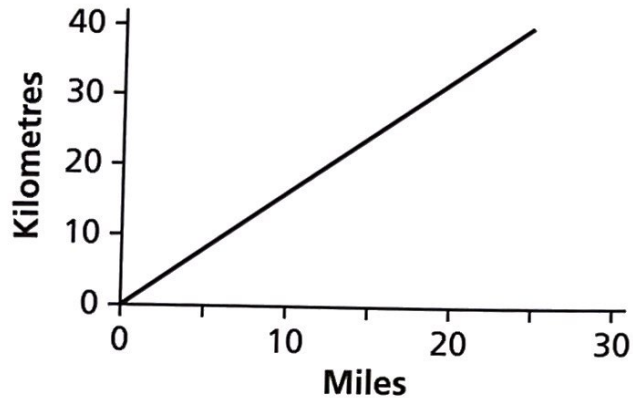
**What is the Hassan family's weekly milk bill?**

- A £5.60      B £2.05      C £6.04      D £4.92      E £5.74



22

This graph converts kilometres to miles.



How many miles are in 400 km?

- A 250 miles
- B 25 miles
- C 205 miles
- D 800 miles
- E 40 miles

23

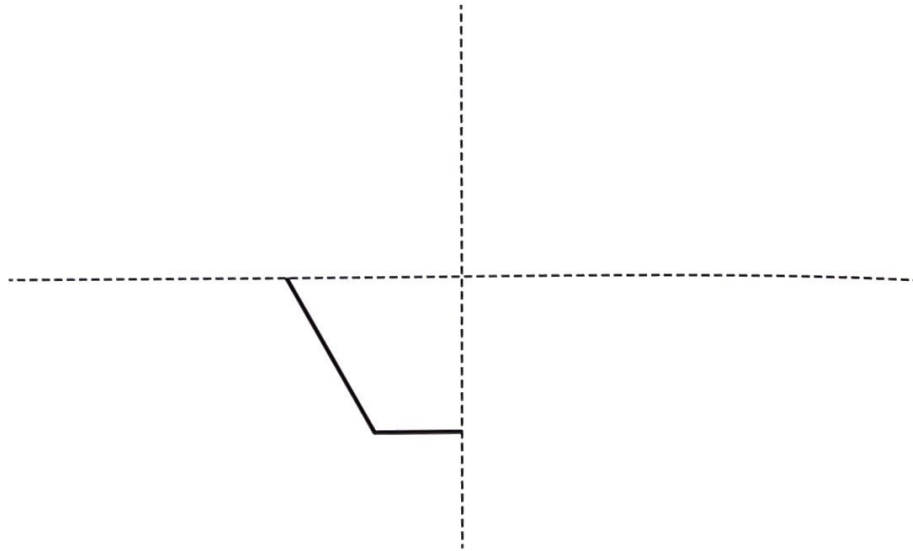
David has keyboard lessons which cost £20.50 each week.  
He has three 12-week terms.

What is the total cost of his lessons in a year?

- A £492
- B £205
- C £287
- D £246
- E £738

24

The diagram below shows part of a shape and two of its lines of symmetry.



What is the name of the complete shape?

- A kite
- B regular pentagon
- C regular hexagon
- D rhombus
- E regular octagon

25

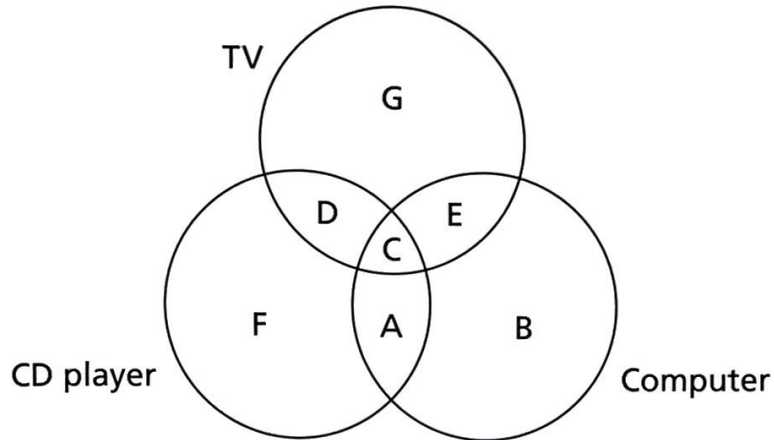
<b>Furniture</b>	
Sofa:	£758.49
Armchair:	£245.00
Dining table:	£376.65
Dining chair:	£98.25

Mr Lee buys one sofa, two armchairs, one dining table and four dining chairs.

What is the total cost of this furniture?

- A £1478.39    B £1723.39    C £1773.14    D £1878.39    E £2018.14

26



The three circles represent the children in a class who have TVs, CD players and computers.

Which area shows the children who do NOT have a TV?

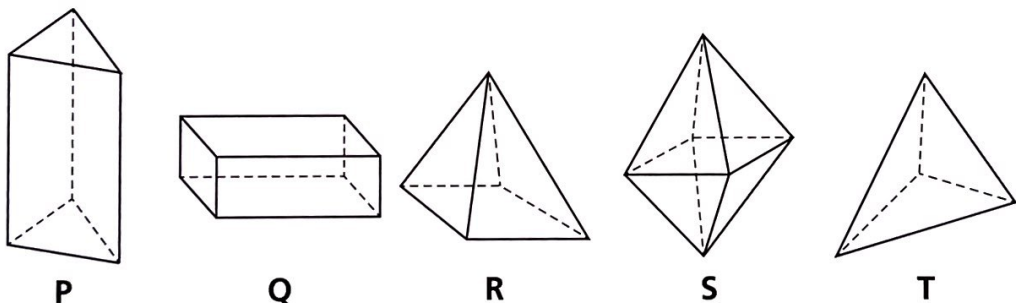
- A  $B + A + F$
- B  $G - B - F$
- C  $F + C + B$
- D  $A + B + D$
- E  $F + A + B + A$

27

How many millimetres are there in 0.08 kilometres?

- A 8 mm
- B 80 mm
- C 800 mm
- D 8000 mm
- E 80 000 mm

28



Which two solids have the same number of edges?

- A P and R
- B Q and S
- C R and T
- D P and S
- E P and Q

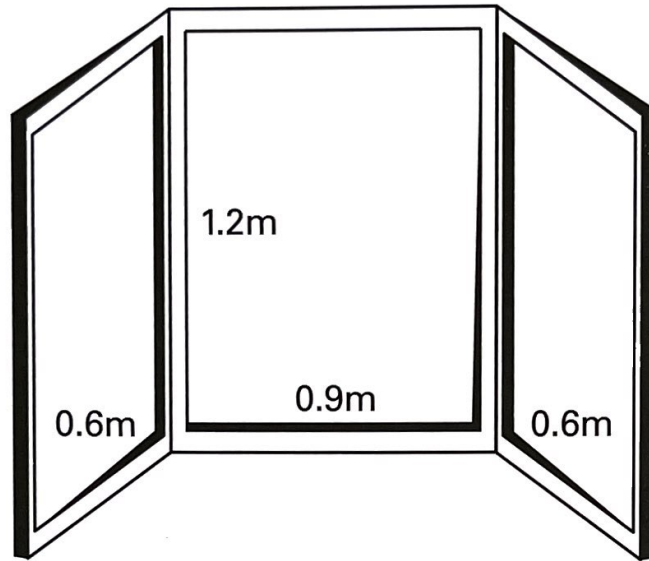
29

Ravi earns £35.50 from his weekly paper round.  
He is paid at the end of each week.

**If he saves all the money, how many weeks must he work before he can buy a mobile phone costing £150?**

- A 5                      B 6                      C 7                      D 8                      E 9

30



A bay window is made up of one rectangular section with a height of 1.2 m and a width of 0.9 m, and two rectangular sections each with a height of 1.2 m and a width of 0.6 m.

**What is the perimeter of the bay window in metres?**

- A 25.2 m              B 6.6 m              C 9.0 m              D 11.4 m              E 5.4 m

31

Out of a class of 36 children, 17 have younger brothers and sisters.

**Approximately what proportion is this?**

- A  $\frac{1}{2}$                       B  $\frac{2}{3}$                       C  $\frac{1}{4}$                       D  $\frac{3}{5}$                       E  $\frac{3}{9}$

32

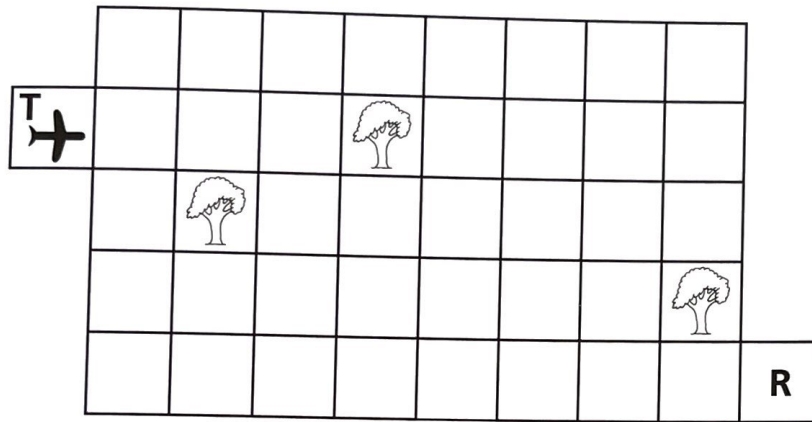
This magic grid contains number sequences that increase in steps.

84	96	108
96	108	120
108	120	?

What is the missing number?

- A 108      B 132      C 96      D 120      E 84

33



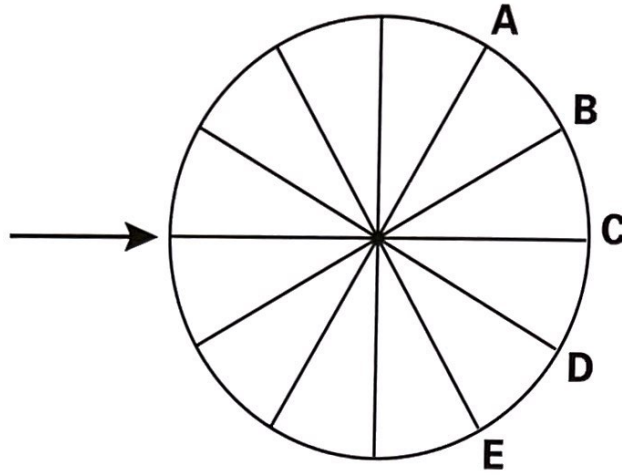
At the airport, Ground Control must guide a plane from point T to the beginning of the runway, R, ready to take off, avoiding any trees on the way.

The plane can only move FORWARD, TURN LEFT 90° or TURN RIGHT 90°.

Which set of instructions will guide the plane to the runway avoiding any trees?

- A FORWARD 3, RIGHT 90°, FORWARD 2, LEFT 90°, FORWARD 5.
- B FORWARD 1, LEFT 90°, FORWARD 2, RIGHT 90°, FORWARD 7.
- C FORWARD 3, RIGHT 90°, FORWARD 3, LEFT 90°, FORWARD 6.
- D FORWARD 1, RIGHT 90°, FORWARD 2, LEFT 90°, FORWARD 7.
- E FORWARD 3, LEFT 90°, FORWARD 3, LEFT 90°, FORWARD 6.

34



This circle is divided into 12 equal sectors.  
It is rotated  $150^\circ$  anticlockwise about its centre.

To which point on the circle is the arrow now pointing?

- A A                      B B                      C C                      D D                      E E

35

Which fraction is equivalent to  $\frac{20}{32}$ ?

- A  $\frac{5}{8}$                       B  $\frac{12}{16}$                       C  $\frac{4}{10}$                       D  $\frac{6}{8}$                       E  $\frac{8}{5}$

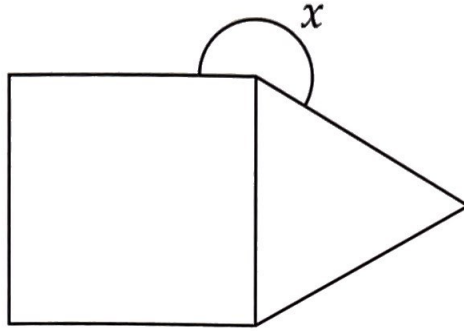
36

Work out the name of this 2D shape from the clues:

1. It has four sides.
2. The diagonals do **not** cross at right angles.
3. All interior angles are right angles.

- A rectangle  
B trapezium  
C kite  
D rhombus  
E square

37



The above shape is made from a square and an equilateral triangle.

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

- A  $90^\circ$       B  $150^\circ$       C  $180^\circ$       D  $210^\circ$       E  $270^\circ$

38

An examiner marks 300 exam papers.  
There are 86 questions in each paper.

**How many questions does she mark altogether?**

- A 2580      B 28500      C 386      D 258      E 25800

39

**What fraction of 2 hours is 45 minutes?**

- A  $\frac{2}{3}$       B  $\frac{6}{8}$       C  $\frac{2}{45}$       D  $\frac{3}{4}$       E  $\frac{3}{8}$

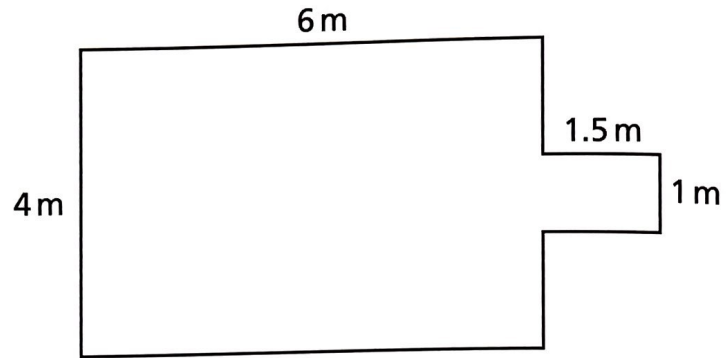
40

Mr Jones is training for the London Marathon.  
He runs 8 kilometres every weekday and twice as far on Saturday and on Sunday.

**How far does he run in one week?**

- A 40 km      B 56 km      C 72 km      D 88 km      E 104 km

41



This is a plan of a hallway.

**What area of carpet will be needed to cover it?**

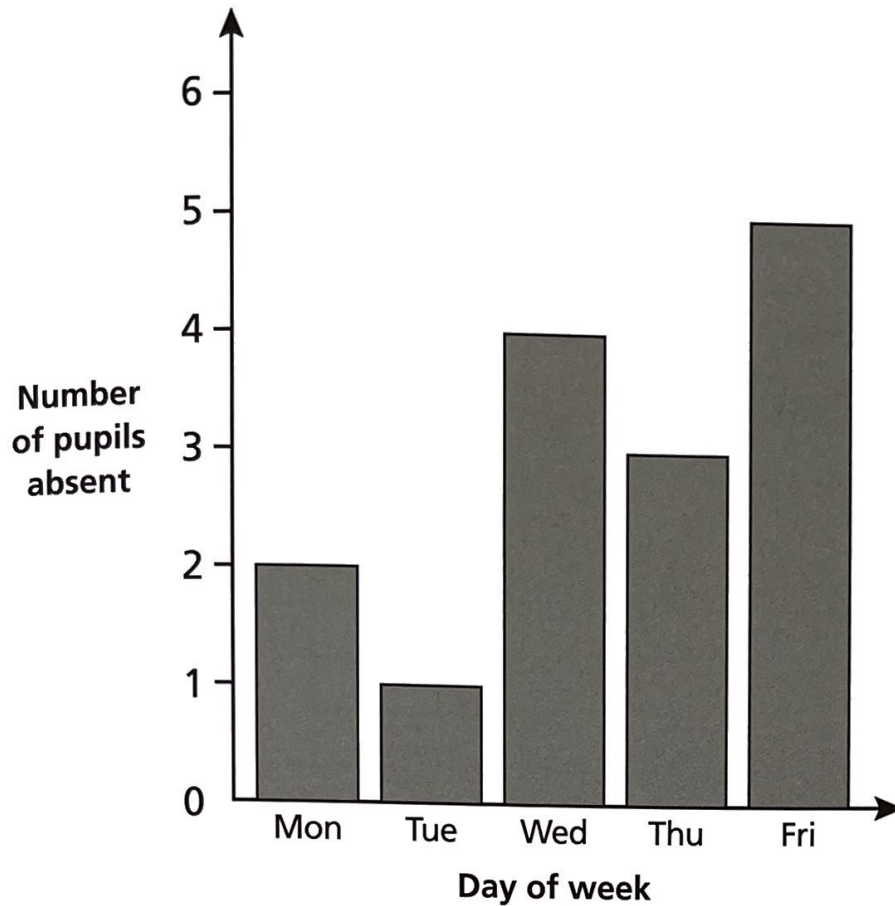
- A**  $24 \text{ m}^2$       **B**  $30 \text{ m}^2$       **C**  $29 \text{ m}^2$       **D**  $25.5 \text{ m}^2$       **E**  $22.5 \text{ m}^2$



There are 32 pupils in Class 6M.

Mrs Moore checked class attendance across one week.

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



Which one of these statements **MUST** be true?

- A Only 17 pupils attended school every day of the week.
- B 15 different pupils were absent during the week.
- C Between 27 and 31 pupils attended every day of the week.
- D 27 pupils attended school every day of the week.
- E Only 5 pupils were absent during the week.

43

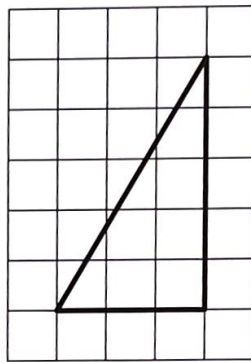
A Greek holiday costs £375 per person.  
There is a £60 reduction for each child.

How much would it cost for Mr and Mrs Johnson to go on the holiday and take their three children with them?

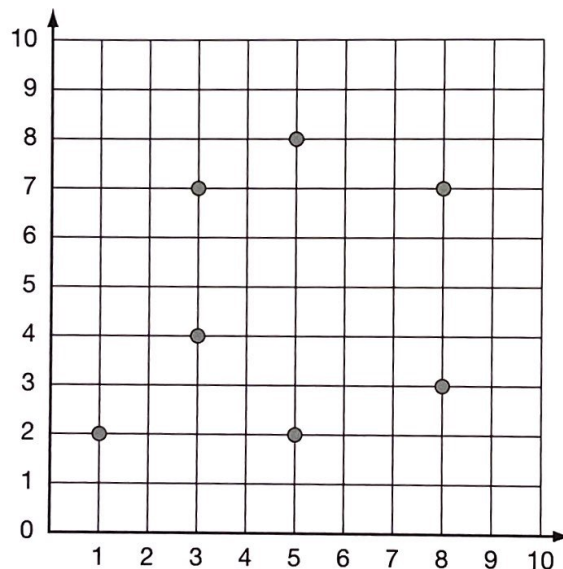
- A £1380      B £1320      C £1815      D £1695      E £1440

44

Ben drew this right-angled triangle on a square grid.



Libby joined up three of the points on the square coordinate grid below to draw a triangle that is exactly the same size and shape as Ben's.



What are the coordinates of the right-angled corner of Libby's triangle?

- A (3, 4)      B (3, 7)      C (5, 2)      D (8, 3)      E (8, 7)

45

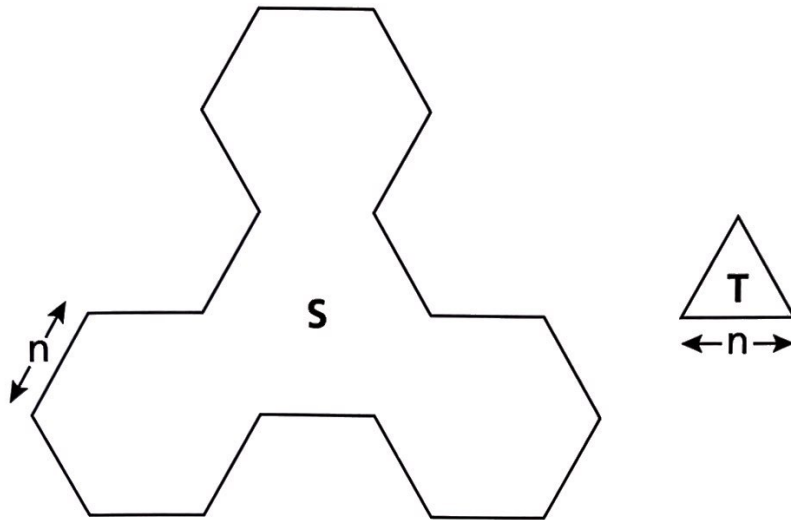
The price of a game in the local toyshop has been reduced by 20%.  
The original price was £9.50.

How much is it now?

- A £1.90      B £7.50      C £7.60      D £8.55      E £9.30

46

Shape S is made from four regular hexagons. T is an equilateral triangle.



How many times will shape T fit into shape S?

- A 6      B 18      C 20      D 24      E 30

47

Mr Cooper compares the price of the same window blinds at five shops.

Shop	Cost
A	50% off £89
B	25% off £60
C	£49
D	4 for £179
E	3 for £140

Which shop gives the cheapest cost per blind?

A A

B B

C C

D D

E E

48

Which of these areas is the same as  $0.5 \text{ m}^2$ ?

A  $50 \text{ cm}^2$

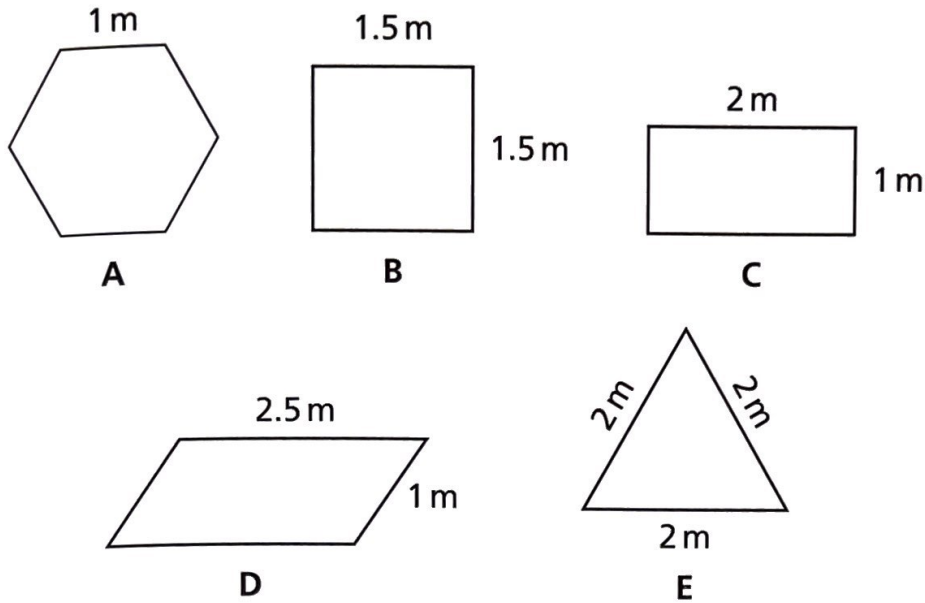
B  $500 \text{ cm}^2$

C  $5000 \text{ cm}^2$

D  $2500 \text{ cm}^2$

E  $250 \text{ cm}^2$

49



Four of the above shapes have the same perimeter.

**Which shape has a different perimeter from the others?**

- A A      B B      C C      D D      E E

50

Joshua and Emma each start to grow a plant on the same day.

After one week, both plants are 5 centimetres tall.

During the next three weeks, Joshua's plant grows 4 centimetres per week and Emma's grows 4.5 centimetres per week.

**When the plants are four weeks old, how much taller is Emma's plant than Joshua's, in centimetres?**

- A 6.0cm      B 5.5cm      C 4.0cm      D 2.0cm      E 1.5cm