

MATHS

Multiple-Choice

Familiarisation Test 8

Read the following carefully:

1. Do not turn over this booklet until you are told to do so.
 2. This is a multiple-choice test.
 3. You may do any rough working on a separate sheet of paper.
 4. Answers should be marked on the answer sheet provided, not on the test booklet.
 5. Mark your answer in the column that has the same number as the test question by drawing a firm line clearly through the rectangle next to your answer.
 6. If you make a mistake, rub it out as completely as you can and put in your new answer. You should only mark one answer for each question.
 7. Be sure to keep your place on the answer sheet.
 8. Work as carefully and quickly 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.
 9. You will have 50 minutes to do the test.
-



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QUESTION 1

Tom has drawn a triangle.

He reflects it in the mirror line.



He ends up with a quadrilateral.

What type of quadrilateral is it?

parallelogram

kite

trapezium

rhombus

rectangle

QUESTION 2

Amrit has this money.



What is the total value of the money?

£2.4

£2.04

£20.04

£2.40

£20.4

QUESTION 3

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

Microwave

- Place sprouts in a microwavable dish.
- Add 3×15 ml (3 tablespoons) of water.
- Cover and cook on full power (see times below).
- Leave to stand (see times below).

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

Adjust times for your particular oven.

Alex has a Category D microwave oven.

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

QUESTION 4

How many twelfths are there in 3?

3

4

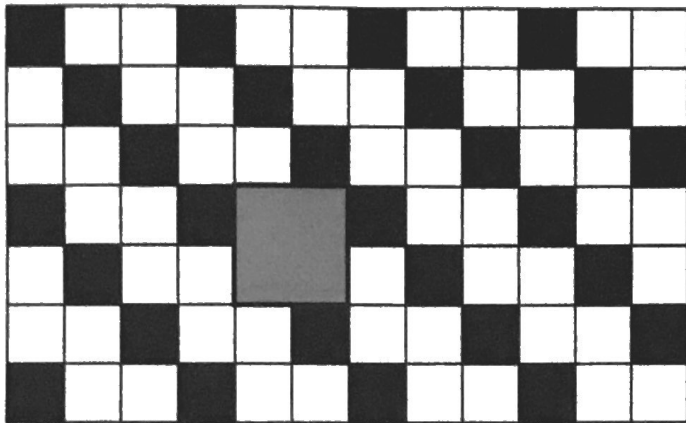
9

12

36

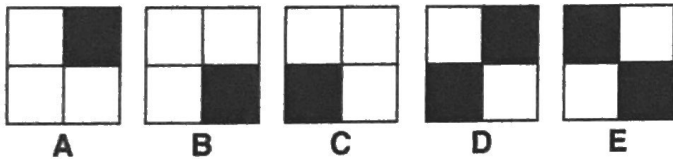
QUESTION 5

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?



QUESTION 6

Menu	
Jacket potato + filling	£1.50
Soup + roll & butter	£1.25
Quiche + chips	£4.00
Drinks	50p

A family chooses from the menu: 2 jacket potatoes, 3 soups and 3 drinks.

They pay with a £20 note.

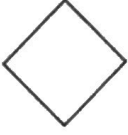
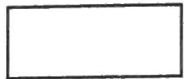
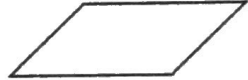
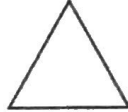
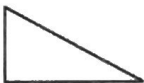
How much change should they receive?

QUESTION 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?

- square 
- rectangle 
- parallelogram 
- equilateral triangle 
- right-angled triangle 

QUESTION 8

36 12 48 24 60

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

- 6
- 4
- 3
- 2
- 8

QUESTION 9



How much do the 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

QUESTION 10

Which of these is 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

QUESTION 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
Foxglove	1 metre	1 for £4.99 3 for £12
Geranium	30 centimetres	1 for £5.99 3 for £15
Helenium	1 metre	1 for £4.99 3 for £12
Iris	1 metre	1 for £5.99 3 for £15

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

- aster and geranium
- aster and helenium
- foxglove and helenium
- foxglove and iris
- geranium and iris

QUESTION 12

Duncan has 20 biscuits.

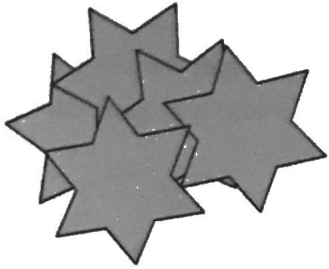
They weigh 300 grams.

Duncan eats three of the biscuits.

How many grams of biscuits does Duncan eat?

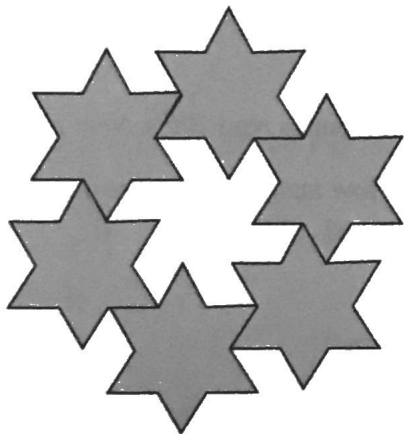
QUESTION 13

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?

QUESTION 14

Sandwiches cost £1.75p each.
Alisha has £5.

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

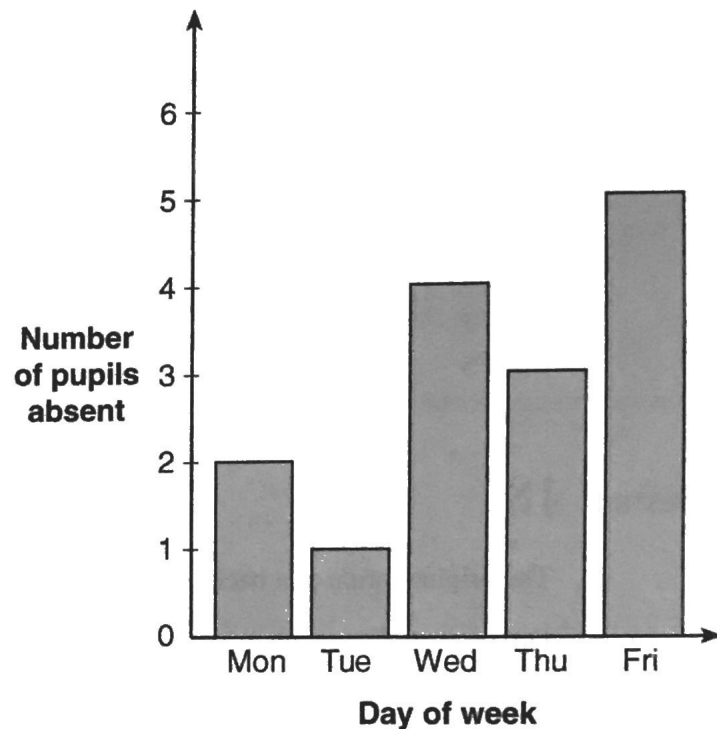
QUESTION 15

There are 32 pupils in Class 6M.

One week Mrs Moore was looking at attendance in the class.

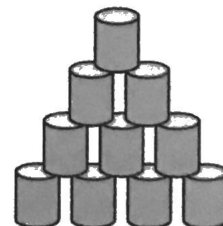
The bar chart shows the number of pupils who were absent each day.

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



QUESTION 16

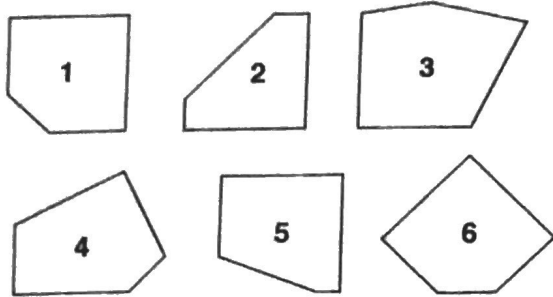
There are ten cans in this stack.
The stack is four cans high.



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

QUESTION 17

Look at the six pentagons.



Which two of the pentagons are exactly the same shape?

- 2 and 1
- 1 and 6
- 2 and 5
- 4 and 3
- 6 and 5

QUESTION 18

The original price of a backpack was £81.

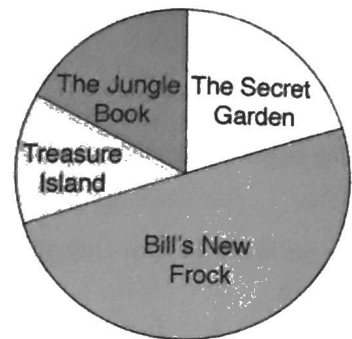
During a sale, the price of the backpack was reduced by £9 each week.

After how many weeks was the price of the backpack less than half of the original price?

QUESTION 19

Each pupil in a reading club read four books.

The pie chart shows the proportion of pupils who read each book.



24 pupils read *Bill's New Frock*.

How many pupils were there in the reading club?

QUESTION 20

Marcus multiplies a number by 96, then divides the answer by 4.

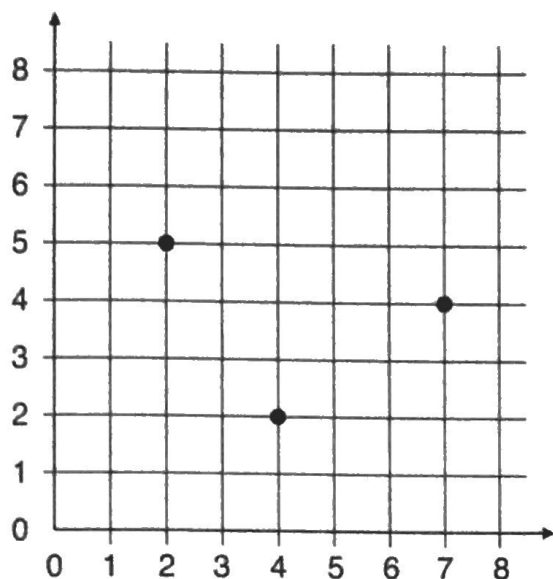
Sanjit does a different calculation which has the same result.

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.

QUESTION 21

The diagram shows three corners of a square.



What are the co-ordinates of the fourth corner?

- (4, 7)
- (7, 4)
- (5, 5)
- (5, 7)
- (7, 5)

QUESTION 22

Karen counts backwards from 24 in steps of 7.

Which of these numbers will she reach?

- 1
- 2
- 3
- 4
- 5

QUESTION 23

This table shows the results of a science 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.

QUESTION 24

Leatown is holding its annual fun run.

Medals are given to all the finishers.

The cost, in pence, of n medals is given by the expression

$$300 + 20n$$

How much will 150 medals cost?

QUESTION 25

Which one of these words looks the same if you reflect it and rotate it?

- OXO
- NOON
- NUN
- MUM
- WOW

QUESTION 26

Gemma swims 9 lengths of a swimming pool.

She swims 160 metres altogether.

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

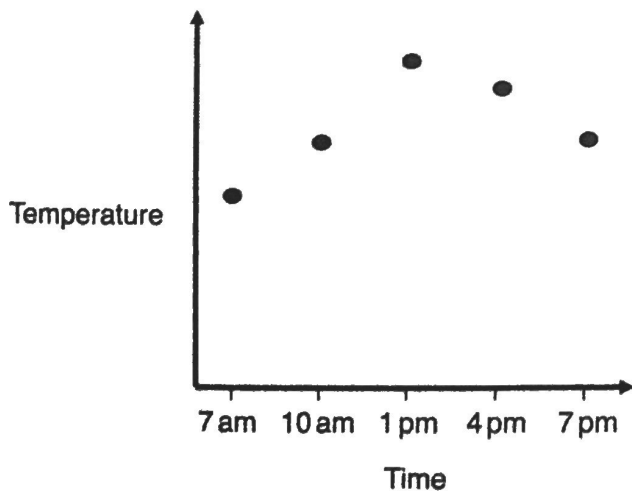
QUESTION 27

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?

QUESTION 28

Nazir is thinking of a number.

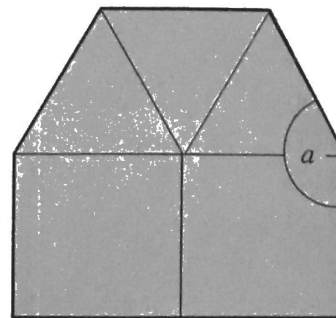
He divides his number by 15, and the answer is a whole number.

Which of these could have been Nazir's number?

- 500
- 505
- 510
- 515
- 520

QUESTION 29

Pat made this shape with squares and equilateral triangles.



What is angle a in Pat's shape?

- 150°
- 120°
- 90°
- 135°
- 165°

QUESTION 30

Some pupils sold cups of tea at the school fair.

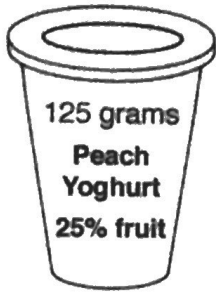
Each cup of tea cost 20p to make.

The pupils sold the cups of tea for 80p each.

The pupils 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?

QUESTION 31



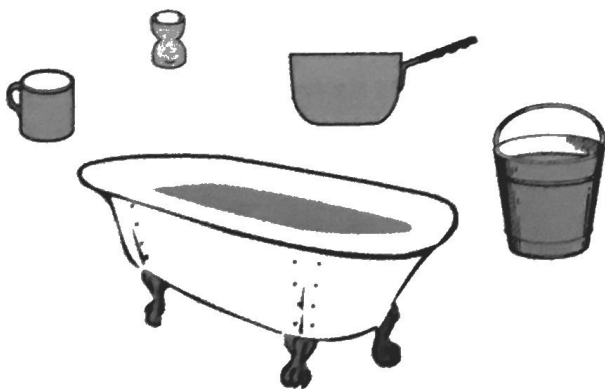
What fraction of the yoghurt is fruit?

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

QUESTION 32

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

QUESTION 33



Mrs Shaw has 175 ml of liquid.

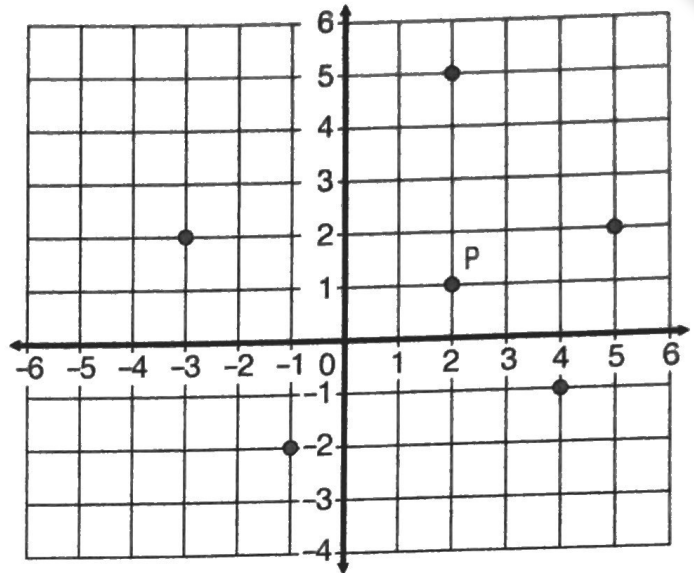
She needs a container for it.

Which one suits her needs best?

- mug
- egg cup
- large saucepan
- bucket
- bath

QUESTION 34

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

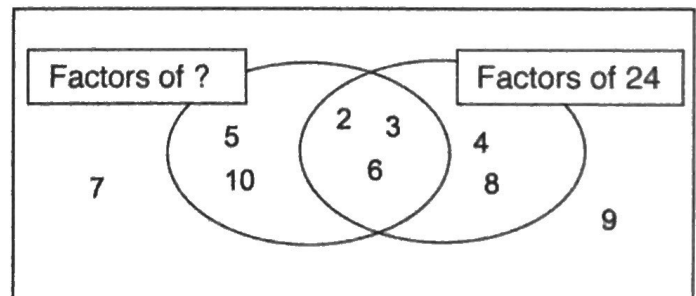


Which of these pairs of points could be the other two corners of the right-angled triangle?

- (4, -1) and (5, 2)
- (5, 2) and (2, 5)
- (2, 5) and (-3, 2)
- (-3, 2) and (-1, -2)
- (-1, -2) and (4, -1)

QUESTION 35

Look at the numbers sorted on this Venn diagram.



What is the missing number in the first label?

QUESTION 36

Which one of these expressions is equivalent to $2(n + 1)$?

- A $2(n + 2) - 1$
- B $2n + 1$
- C $2n + 2$
- D $2(n - 1) + 2$
- E $2(n + 3) - 2$

QUESTION 37

It is 4 o'clock on the kitchen clock.

What is the obtuse angle between the clock hands?

QUESTION 38

Round 32.476 kilometres to the nearest 10 metres.

- A 30 kilometres
- B 32 kilometres
- C 32.5 kilometres
- D 32.47 kilometres
- E 32.48 kilometres

QUESTION 39

The mean of these five numbers is 6.

2 4 6 8 10

Pavel removes one number. The mean of the remaining four numbers is 7.

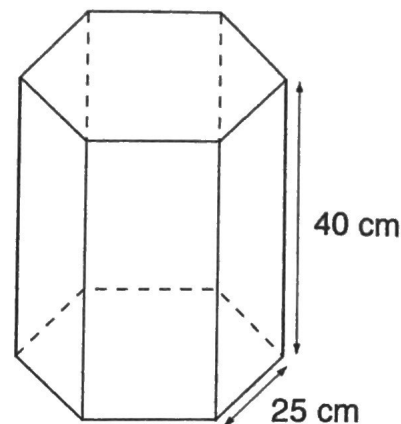
Which number did Pavel remove?

QUESTION 40

Which one of these is the greatest?

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

QUESTION 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 cm^2
- B 780 cm^2
- C 3000 cm^2
- D 6000 cm^2
- E $12,000 \text{ cm}^2$

QUESTION 42

Zonia's rabbit weighs 3 kilograms.

She buys a bag of rabbit food pellets weighing $2\frac{1}{2}$ kilograms.

The information on the bag of rabbit food says:



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

QUESTION 44

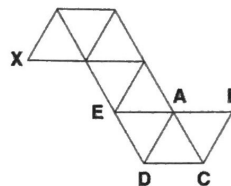
Anna and Ben won some money. They shared it equally. They each got £12.

Carla, David, Ella and Fran won three times as much money as Anna and Ben. They shared it equally. How much did each person get?

QUESTION 45

Charlie is making a model of a solid.

He has cut out the net.



He folds up the net.

Which corner does he join X to?

QUESTION 46

John and Ali start counting on from 0.

They each count on in steps of a different size.

The first number that both John and Ali reach is 120.

What size steps could they have been counting in?

- 10 and 12
- 11 and 13
- 9 and 14
- 8 and 15
- 6 and 20

QUESTION 43

Joshua picks a three-course meal at random from this menu:

MENU
Starter
Melon
Prawn cocktail
Main
Steak
Chicken
Salmon
Vegetarian option
Pudding
Fruit cocktail
Chocolate cake

What is the probability that he picks a meal with chicken in it?

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

QUESTION 47

Some pupils recorded the number of people in a swimming pool at different times one day.

They drew some conclusions from their data.

Which conclusion must be wrong?

- A The smallest number of people in the swimming pool was 0.
- B The modal number of people in the swimming pool was 7.5.
- C The mean number of people in the swimming pool was 7.5.
- D The range in the number of people in the swimming pool was 10.
- E The greatest number of people in the swimming pool was 10.

QUESTION 48

Mr Firat needs to buy posts and panels for a new fence of length 8.5 m.

The panels are 2 m wide. The posts are 10 cm wide.

There are posts between all the panels, and one at each end of the fence.

How many posts and how many 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

QUESTION 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?

- 16 cm
- 1.6 cm
- 0.16 cm
- 160 cm
- 0.016 cm

QUESTION 50

Mr Phillips buys an empty hanging basket for £4.00.

Plants for the hanging basket cost £1.00 each.

What expression would give the total cost in pounds if Mr Phillips buys n plants?

- $4n + 1$
- $5n$
- $400n + 100$
- $4 + n$
- $4 + 100n$