ELTHAM COLLEGE

13+ ENTRANCE TEST

2017

Time allowed: **45 minutes**

Name: .....

Instructions

The test is **45 minutes** long.

You **may not** use a calculator.

There are **12** questions in this test.

Work steadily through the test, and try to answer all the questions.

Write all your answers and working on the test paper - marks may be awarded for working.

Check your answers carefully.

Total		**(55 marks)**

Q1.

(a) Work out:

$1\frac{3}{4} + 3\frac{1}{2}$

.....

(1)

(b) Work out $\frac{3}{7}$ × £28

£.....

(2)

(c) Estimate the value of 19.89 × 201.71

.....

(2)

(Total for question = 5 marks)

Q2.

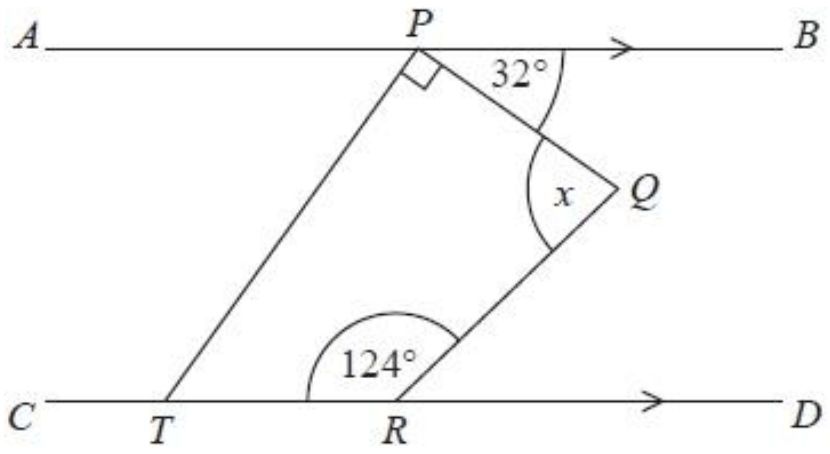


Diagram **NOT** accurately drawn

APB is parallel to *CTRD*.
PQRT is a quadrilateral.

Work out the size of the angle marked *x*.
You must show your working.

..... °

(Total for question = 4 marks)

Q3.

Here is an equilateral triangle.

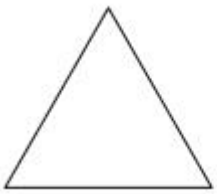
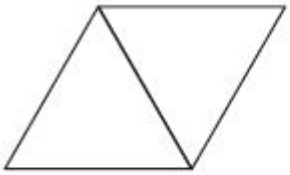


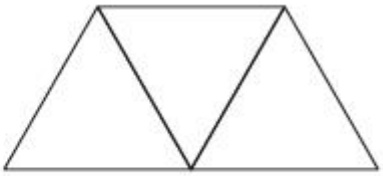
Diagram **NOT** accurately drawn

The equilateral triangle has a perimeter of 24 cm.

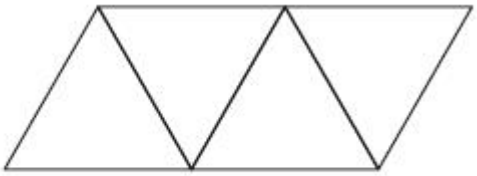
Some of these equilateral triangles are used to make this sequence of quadrilaterals.



quadrilateral 1



quadrilateral 2



quadrilateral 3

Find the perimeter, in centimetres, of quadrilateral 10.

.....

(Total for question = 3 marks)

Q4.

Liz's age is a square number.
Howard's age is a cube number.
Howard is 2 years older than Liz.

How old are Liz and Howard?

Liz .....

Howard .....

(Total for question = 2 marks)

Q5.

Here is a list of numbers.

4 6 8 11 15 33 44

(a) From the list, write down a factor of 42

.....

(1)

(b) From the list, write down a multiple of 22

.....

(1)

(c) From the list, write a different number in each box to make the statement true.

$\square \div \square \times \square = 12$

(1)

(Total for question = 3 marks)

Q6.

(a) Express 180 as a product of its prime factors.

.....

(3)

Martin thinks of two numbers.

He says,

"The Highest Common Factor (HCF) of my two numbers is 6
The Lowest Common Multiple (LCM) of my two numbers is a multiple of 15"

(b) Write down **two** possible numbers that Martin is thinking of.

..... , ...

(2)

(Total for Question is 5 marks)

Q7.

Write these numbers in order of size.
Start with the smallest number.

5^{-1} 0.5 -5 5^{0}

.....

(Total for Question is 2 marks)

Q8.

(a) Work out 30% of 60

.....

(2)

(b) Work out −15 ÷ −3

.....

(1)

(c) Work out the value of 4 + 3 × (9 − 2)

.....

(1)

(Total for question = 4 marks)

Q9.

Ameeta and some friends want to have a meal in a restaurant.
On Saturday, each meal will cost £21

Ameeta sees this special offer.

Special Offer

Monday to Friday

2 meals for £32

Ameeta is going to book a table for 6 people.

The total cost of the 6 meals will be less on Wednesday than on Saturday.

(a) How much less?

£ .....

(3)

Ameeta can choose one main course and one dessert.

Menu

main course	**dessert**
Chicken	Fruit
Lamb	Eclair
	Trifle

(b) Write down all the possible combinations Ameeta can choose.

.....

.....

.....

.....

(2)

(Total for question = 5 marks)

Q10.

Shelley sells books.

On Saturday she is going to give a free book mark and a free dust cover with each book she sells.

All the books are the same size.

Shelley needs to buy the book marks and the dust covers.

Book marks come in boxes.
Each box contains 24 book marks.

Dust covers come in packs.
Each pack contains 36 dust covers.

Shelley wants to have enough book marks and dust covers for 250 books.
She buys exactly the same number of book marks and dust covers.

Work out the number of boxes of book marks and the number of packs of dust covers she buys.

You must show all your working.

..... boxes of book marks

..... packs of dust covers

(Total for question = 4 marks)

Q11.

* The diagram shows the floor plan of Mary's conservatory.

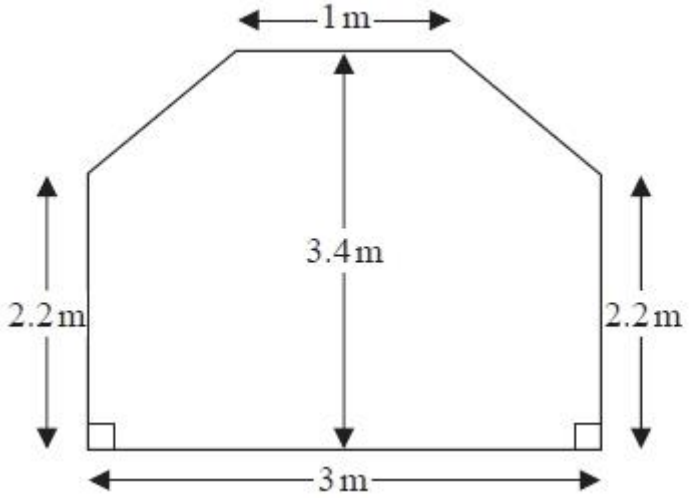


Diagram **NOT** accurately drawn

Mary is going to cover the floor with tiles.

The tiles are sold in packs.
One pack of tiles will cover $2m^2$
A pack of tiles normally costs £24.80
Mary gets a discount of 25% off the cost of the tiles.

Mary has £100

Does Mary have enough money to buy all the tiles she needs?
You must show all your working.

(Total for question = 5 marks)

Q12.

The diagram shows the plan of a floor.

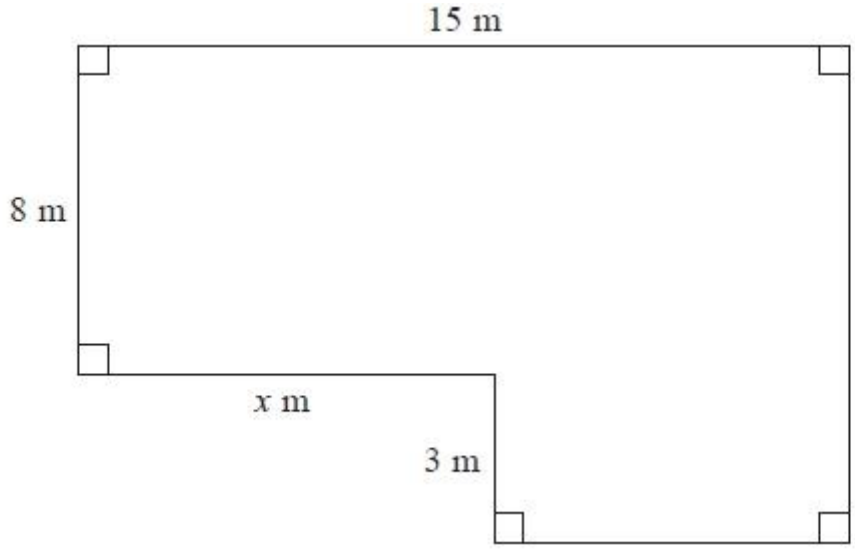


Diagram **NOT** accurately drawn

The area of the floor is 138 m^2.

Work out the value of x.

.....

(Total for Question is 4 marks)

END OF TEST – PLEASE GO BACK AND CHECK YOUR ANSWERS