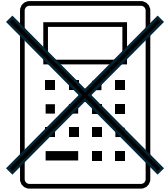


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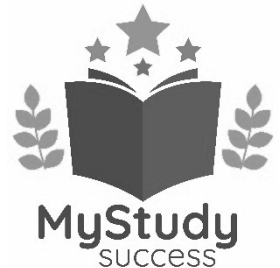
Forename(s):

GCSE Mathematics – Foundation Tier

Paper 1 – Non Calculator



Practice Set A



Materials

- **Formulae Sheet** (on the next page)
- **Black** ink or ball-point pen
- Pencil
- Eraser
- Protractor
- Compass
- Tracing Paper
- **No calculator allowed**

/40

Instructions

- Time allowed: **45 minutes**.
- The total mark for this paper is **40**.
- Show **all** of your working.
- Draw diagrams in pencil.
- Plot graphs in pencil.
- Diagrams are **not** accurately drawn, unless otherwise indicated.
- Cross through any work you don't want to be marked

Foundation Tier Formulae Sheet

Perimeter, Area and Volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

Area of a trapezium = $\frac{1}{2}(a + b)h$

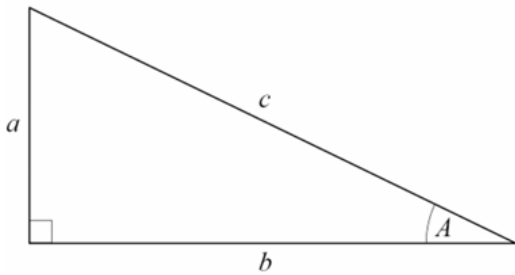
Volume of a prism = area of cross section $\times$ length

Where r is the radius and d is the diameter:

Circumference of a circle = $2\pi r = \pi d$

Area of a circle = πr^2

Pythagoras' Theorem and Trigonometry



In any right-angled triangle where a , b and c are the length of the sides and c is the hypotenuse:

$$a^2 + b^2 = c^2$$

In any right-angled triangle ABC where a , b and c are the length of the sides and c is the hypotenuse:

$$\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

$$\text{Total accrued} = P \left(1 + \frac{r}{100} \right)^n$$

Probability

Where $P(A)$ is the probability of outcome A

and $P(B)$ is the probability of outcome B :

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

$$P(A \text{ and } B) = P(A \text{ given } B) P(B)$$

1 Write 6.35123 correct to 3 decimal places.

(Total for question 1 is 1 mark)

2 Solve $\frac{x}{3} = 12$

x = _____
(Total for question 2 is 1 mark)

3 (a) Change 742 cm into metres

_____ m
(1)

(b) Change 3.6 kg into grams

_____ g
(1)

(Total for question 3 is 2 marks)

4 Oscar buys

- 2 loaves of bread costing £1.60 for each loaf
- 1 carton of milk for £1.25
- 3 packets of crisps

Oscar pays with a £10 and gets £3.30 change.

How much does each packet of crisps cost?

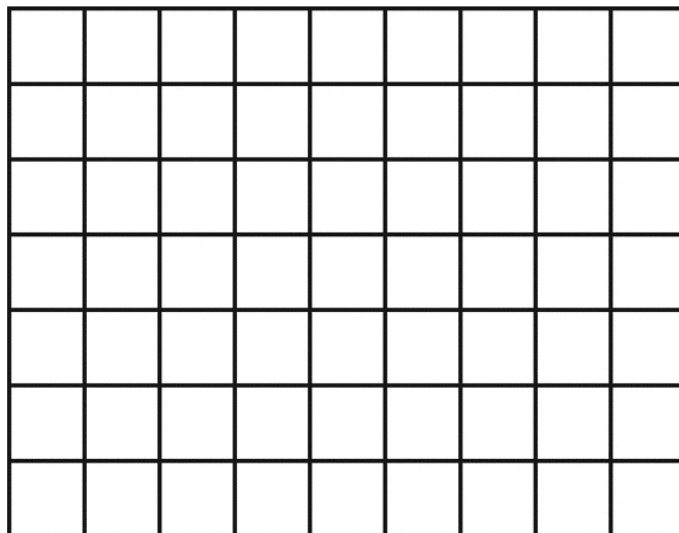
You must show how you get your answer.

£ _____

(Total for question 4 is 3 mark)

5 The length of a rectangle is twice as long as the width of the rectangle.
The area of the rectangle is 18cm^2 .

Draw the rectangle on the centimetre grid.



(Total for question 5 is 2 marks)

6 Megan's pet shop has 45 cats.

30 of the cats are male.

8 of the female cats have short hair.

12 of the cats with long hair are male.

(a) Use the information to complete the two-way table.

	Male	Female	Total
Long hair			
Short hair			
Total			

(3)

(b) One of Megan's cats is chosen at random.

What is the probability that this cat is a female with short hair?

(1)

(Total for question 6 is 4 marks)

7 A farmer has 30 boxes of eggs.

There are 6 eggs in each box.

Write, as a ratio, the number of eggs in four boxes to the total number of eggs.

Give your answer in its simplest form.

(Total for question 7 is 2 marks)

8 There are only red buttons, blue buttons, and white buttons in a jar.

The number of red buttons, the number of blue buttons, and the number of white buttons are in the ratio 5 : 8 : 12

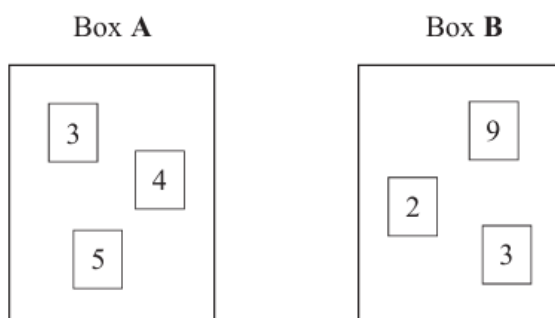
Work out what percentage of the buttons in the jar are white.

_____ %

(Total for question 8 is 2 marks)

9 There are three cards in Box A and three cards in Box B.

There is a number on each card



Raya takes at random a card from Box A and a card from box B.

She adds together the numbers on the two cards to get a total score.

Work out the probability that the total score is as odd number.

_____ (Total for question 9 is 2 marks)

10 Here is a list of ingredients for making 16 oat biscuits.

Ingredients for 16 oat biscuits

120g butter

160g sugar

220g oats

4 tablespoons syrup

Chris needs to make 20 oat biscuits for a party.
Work out how much of each ingredient he needs.

butter _____ g

sugar _____ g

oats _____ g

syrup _____ tablespoons

(Total for question 10 is 3 marks)

11 (a) Solve $4(w - 5) = 18$

$w =$ _____
(2)

$-5 < y \leq 1$

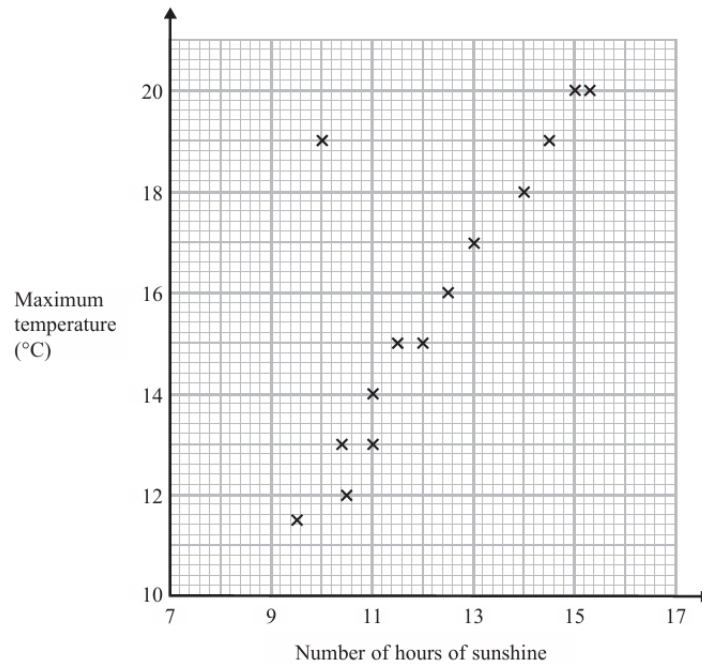
y is an integer

(b) Write down all possible values of y.

(2)

(Total for question 11 is 4 marks)

12 The scatter graph shows that maximum temperature and the number of hours of sunshine in fourteen towns on one day.



One of the points is an outlier.

(a) Write down the coordinates of this point

(_____ , _____)
(1)

(b) For all the other points, write down the type of correlation shown.

(1)

On the same day, in another town, the maximum temperature was 11.4°C.

(c) Estimate the number of hours of sunshine in this town on this day.

_____ hours
(2)

A weather man says, “Temperatures are higher on days when there is more sunshine.”

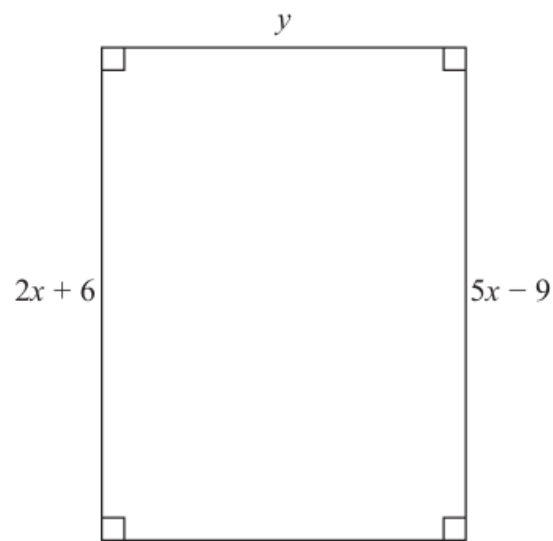
(d) Does the scatter graph support what the weather man says?

Give reason for your answer.

(1)

(Total for question 12 is 5 marks)

13 Here is a rectangle.



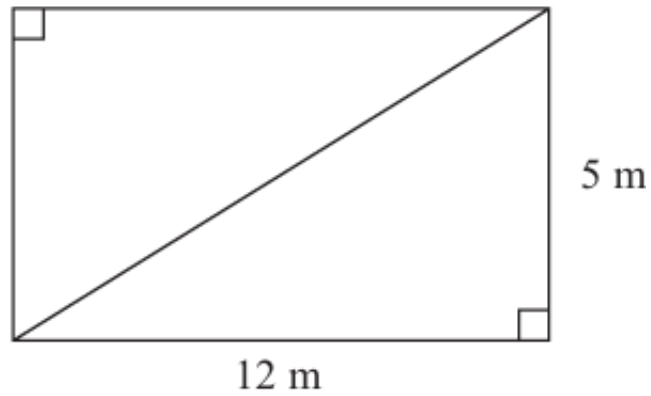
All measurements are in centimetres.

The area of the rectangle is 80cm^2 .

Show that $y = 5$

(Total for question 13 is 4 marks)

14 This is a rectangular frame made from 5 straight pieces of wood.



The weight of the wood is 1.2kg per metre.

Work out the total weight of the wood needed to make the frame.

_____ kg

(Total for question 27 is 5 marks)

END OF TEST

TOTAL FOR THIS PAPER IS 40 MARKS