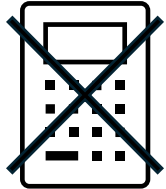


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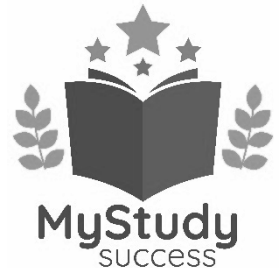
Forename(s):

GCSE Mathematics – Foundation Tier

Paper 1 – Non Calculator



Practice Set D



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

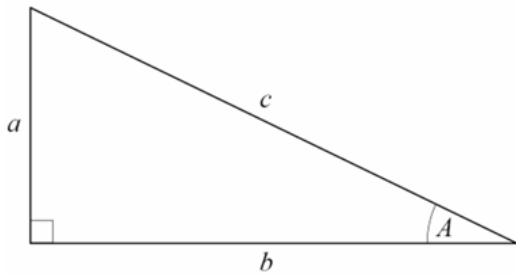
Volume of a prism = area of cross section $\times$ length

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 0.9 as a percentage.

_____ %

(Total for question 1 is 1 mark)

2 Work out $-15 - 6$

(Total for question 2 is 1 mark)

3 Here are four cards.



(a) Write down the greatest possible 4-digit even number that can be made with these cards.

You can only use each card once.

(1)

(b) Write down all the possible 2-digit numbers that can be made using these cards.

(2)

(Total for question 3 is 3 mark)

- 4 Leroy buys 300 grams of flour and 225 grams of baking powder.
Work out the total cost.
Give your answer in pounds.

	Cost for 100 grams
Flour	15p
Baking Powder	76p

£ _____

(Total for question 4 is 4 marks)

-
- 5 Work out $\frac{12}{25} - \frac{2}{5}$

(Total for question 5 is 2 marks)

6 Ted spent 150 minutes in the shopping centre.

He was in the sports shop for 30 minutes.

He was in the phone shop for $\frac{1}{6}$ of the 150 minutes.

He was in the games shop for 30% of the 150 minutes.

He spent the rest of his time in the restaurant.

(a) Work out the total time, in minutes, that Ted spent in the restaurant.

_____ minutes

(4)

(b) Ted had arrived at the shopping centre at 3:15PM

There is a bus that departs from outside the shopping centre at 5:48PM

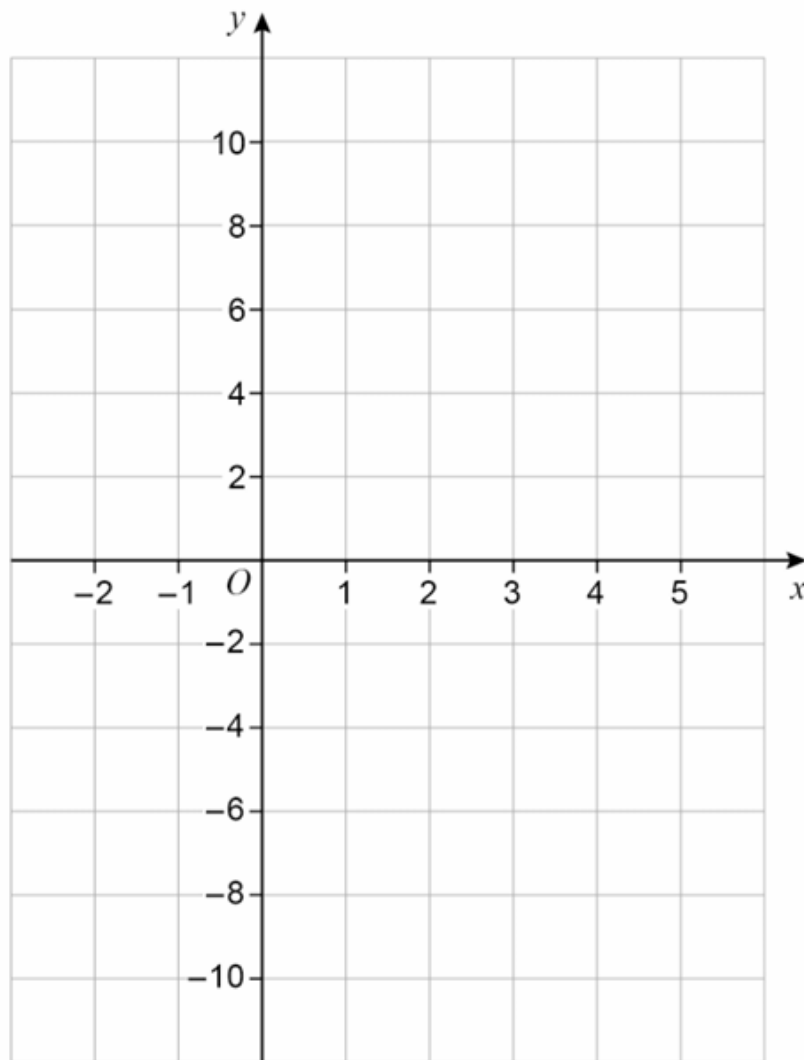
Will he make it in time to catch this bus home?

You must give reason for your answer.

(1)

(Total for question 6 is 5 marks)

- 7 (a) On the grid, draw the graph of $y = 6 - 2x$ for values of x from -2 to 5



(3)

- (b) Write down the gradient of the graph $y = 6 - 2x$

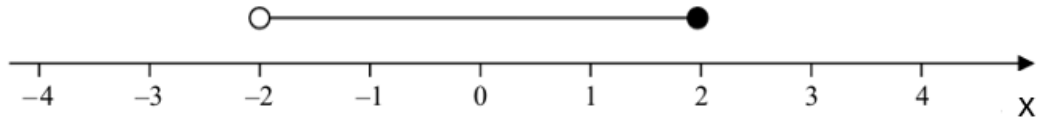
(1)

- (c) Write down the y intercept of the graph of $y = 6 - 2x$

(1)

(Total for question 7 is 5 marks)

8 Here is a number line.



Write down the inequality shown on the number line.

(Total for question 8 is 2 marks)

9 Work out the lowest common multiple of 90 and 126.

(Total for question 9 is 3 marks)

- 10 Sherida pays £20 for a box of 8 candles.
She sells each candle for £4.50
Work out her percentage profit.

(Total for question 10 is 3 marks)

- 11 (a) Work out the value of $\frac{3^{12} \times 3^3}{3^{11}}$

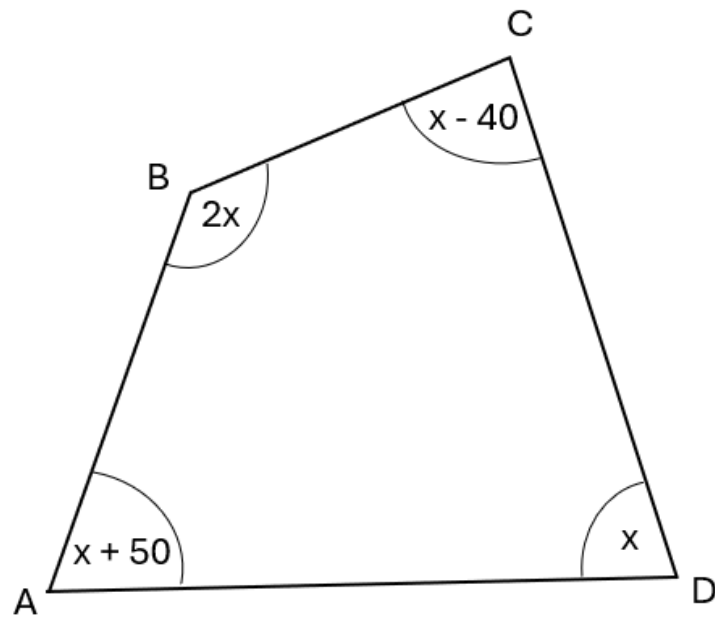
(2)

- (b) Write down the value of 2^{-3}

(1)

(Total for question 11 is 3 marks)

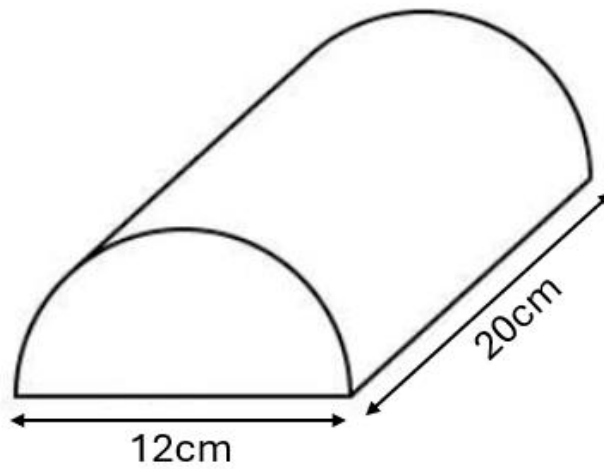
- 12 Here is a diagram of quadrilateral ABCD
All angles are in degrees



Work out the size of the largest angle in this quadrilateral.

_____°
(Total for question 12 is 3 marks)

13 The diagram shows a half cylinder with diameter 12cm and length 20cm.



This object has a density of 0.3 grams per cm^3 .

Work out the mass of this object.

Give your answer in terms of π in its simplest form.

_____ grams

(Total for question 13 is 5 marks)

END OF TEST

TOTAL FOR THIS PAPER IS 40 MARKS