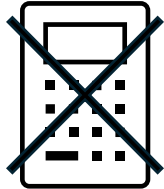


Surname:

Forename(s):

GCSE Mathematics – Foundation Tier

Paper 1 – Non Calculator



Practice Set C



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

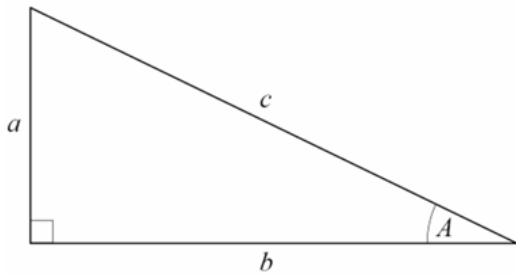
Volume of a prism = area of cross section $\times$ length

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

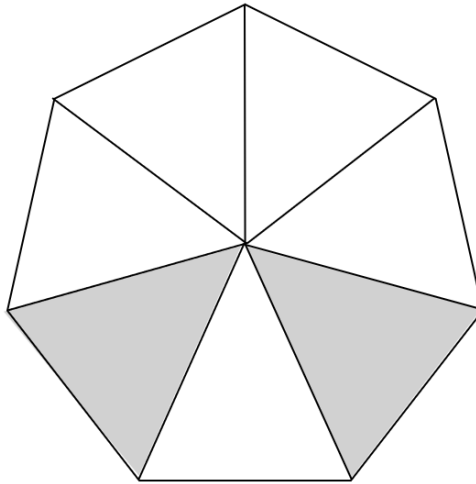
Where $P(A)$ is the probability of outcome A

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 What fraction of this shape is shaded?



(Total for question 1 is 1 mark)

2 Here is a list of numbers.

10	17	8	16	22	15	26
----	----	---	----	----	----	----

(a) Write down a number from the list which is an odd number.

(1)

(b) Write down a number from the list which is a prime number.

(1)

(c) Write down a number from the list which is a multiple of 4.

(1)

(Total for question 2 is 3 marks)

3 Arrange the following in order from smallest to largest.

$$\frac{3}{4} \quad 64\% \quad 0.73 \quad \frac{7}{10} \quad 70.5\%$$

(Total for question 3 is 2 marks)

4 $x = -8$
 $y = 4$

$$w = 3x - 2y$$

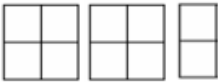
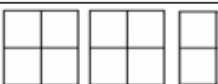
Work out the value of w .

$$w = \underline{\hspace{2cm}}$$

(Total for question 4 is 2 marks)

- 5 The pictogram shows the number of pies that Pete sold in his pie shop throughout the week.

Key:  = 8 pies

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

(a) Given that:

- He sold a total of 96 pies during this week
- He sold half as many pies on Sunday as he did on Saturday
- He sold the same number of pies on Thursday and Friday

Complete the pictogram.

(4)

(b) Each pie is sold for a price of £6 each.

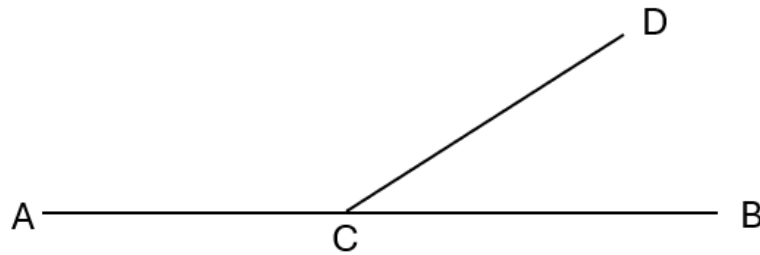
Work out the total price of all of the pies sold during this week.

£ _____

(1)

(Total for question 5 is 5 marks)

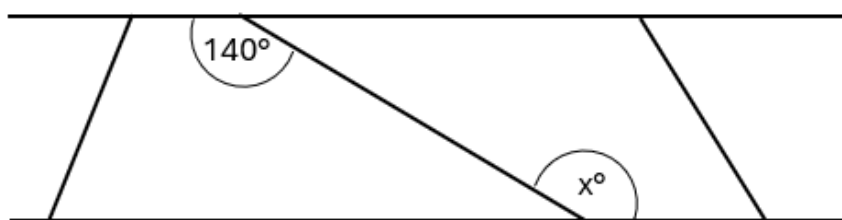
6 ACB and CD are straight lines.



angle ACD = 4 x angle DCB

(a) Work out the size of angle ACD

_____°
(3)



(b) Work out the size of angle x and give reason for your answer.

X = _____ because _____

(2)

(Total for question 6 is 5 marks)

- 7 Benji is making a strawberry milkshake.
Here are the instructions that he is given.

Mix 3 parts blended strawberries
with 5 parts milk

Benji has 450ml of blended strawberries and 600ml of milk.

- (a) What is the greatest amount of strawberry milkshake that Benji can make using these instructions?

_____ ml

(3)

- (b) Benji blends some more strawberries. He now has a total of 600ml of blended strawberries. Does this affect your answer to part (a)?
Give reason for your answer.

(1)

(Total for question 7 is 4 marks)

8 (a) Work out $\frac{5^{12}}{5^9}$

Give your answer as a whole number.

(2)

(b) Simplify $16 \times 2^{10} \times 2^8$

Give your answer as a power of 2.

(2)

(Total for question 8 is 4 marks)

-
- 9 The probability that Erin passes her maths test is 0.65
What is the probability that Erin does not pass her maths test?

(Total for question 9 is 2 marks)

10 (a) Solve $7w - 5 = 3w + 7$

$w =$ _____
(3)

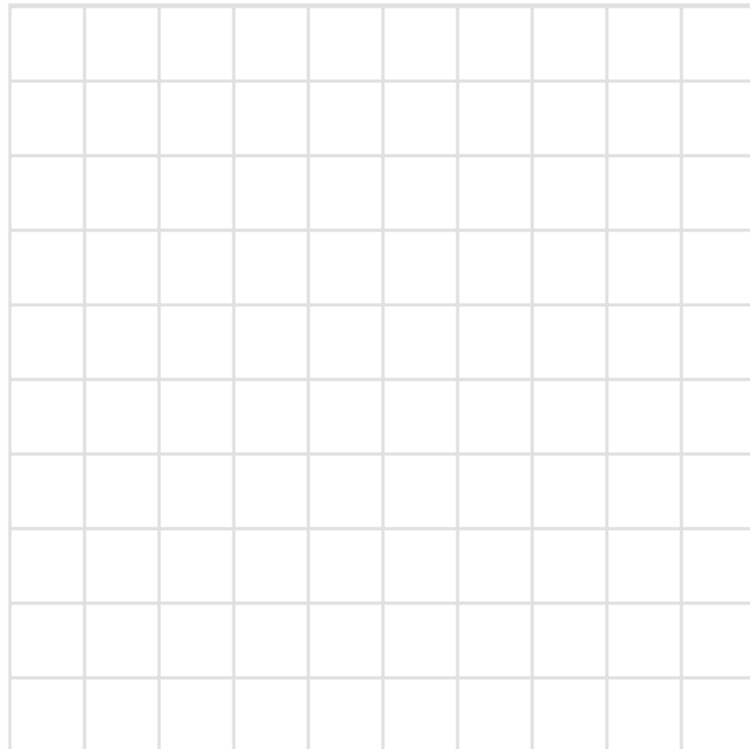
(b) Solve $x^2 - 8x - 20 = 0$

$x =$ _____
(3)

(Total for question 10 is 6 marks)

11 $v = \begin{pmatrix} -6 \\ 5 \end{pmatrix}$

On the grid below, draw the vector v .



(Total for question 11 is 1 mark)

- 12 The mean weight of a group of 5 people is 80kg.
Another person who weighs 50kg joins the group.
Work out the mean weight of the group of 6 people.

_____kg

(Total for question 12 is 3 marks)

-
- 13 Write down the exact value of $\cos 60^\circ + \sin 30^\circ$

(Total for question 13 is 2 marks)

END OF TEST

TOTAL FOR THIS PAPER IS 40 MARKS