

Answer all TWENTY questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 The table shows information about the weights, in kg, of 40 parcels.

Weight of parcel (p kg)	Frequency
$0 < p \leq 1$	19
$1 < p \leq 2$	12
$2 < p \leq 3$	5
$3 < p \leq 4$	2
$4 < p \leq 5$	2

- (a) Write down the modal class.

.....
(1)

- (b) Work out an estimate for the mean weight of the parcels.

..... kg
(4)

(Total for Question 1 is 5 marks)



2 There are some people in a cinema.

$\frac{3}{5}$ of the people in the cinema are children.

For the children in the cinema,

$$\text{number of girls} : \text{number of boys} = 2 : 7$$

There are 170 girls in the cinema.

Work out the number of adults in the cinema.

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(Total for Question 2 is 5 marks)



3 (a) Simplify $y^5 \times y^9$

.....
(1)

(b) Simplify $(2m^3)^4$

.....
(2)

(c) Solve $5(x + 3) = 3x - 4$
Show clear algebraic working.

$x =$
(3)

(d) (i) Factorise $x^2 + 2x - 24$

.....
(2)

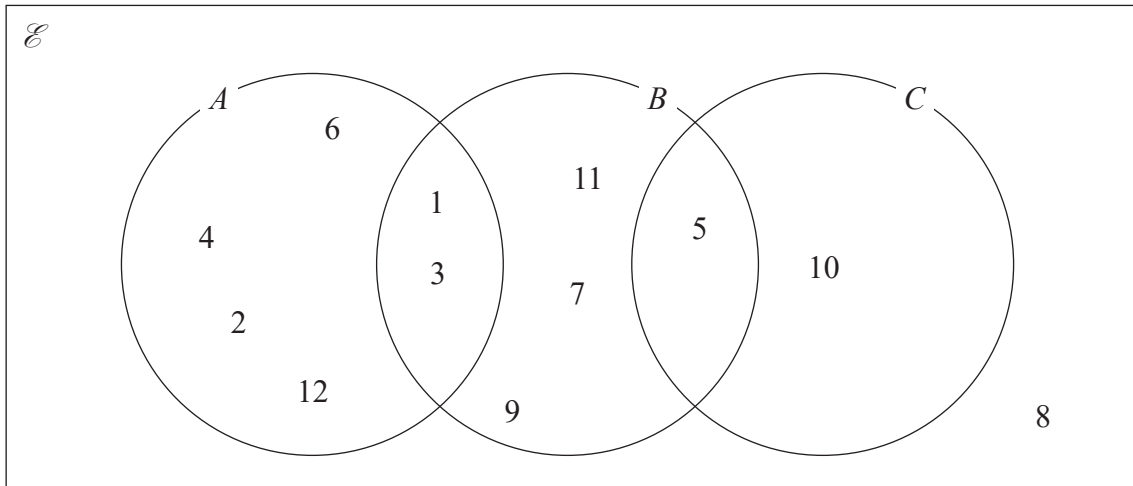
(ii) Hence, solve $x^2 + 2x - 24 = 0$

.....
(1)

(Total for Question 3 is 9 marks)



4 Here is a Venn diagram.



(a) Write down the numbers that are in the set

(i) A

.....

(ii) $B \cup C$

.....

(2)

Brian writes down the statement $A \cap C = \emptyset$

(b) Is Brian's statement correct?

You must give a reason for your answer.

.....

.....

(1)

One of the numbers in the Venn diagram is picked at random.

(c) Find the probability that this number is in set C'

.....

(2)

(Total for Question 4 is 5 marks)



5 (a) Write 8×10^4 as an ordinary number.

.....
(1)

(b) Work out $(3.5 \times 10^5) \div (7 \times 10^8)$
Give your answer in standard form.

.....
(2)

(Total for Question 5 is 3 marks)

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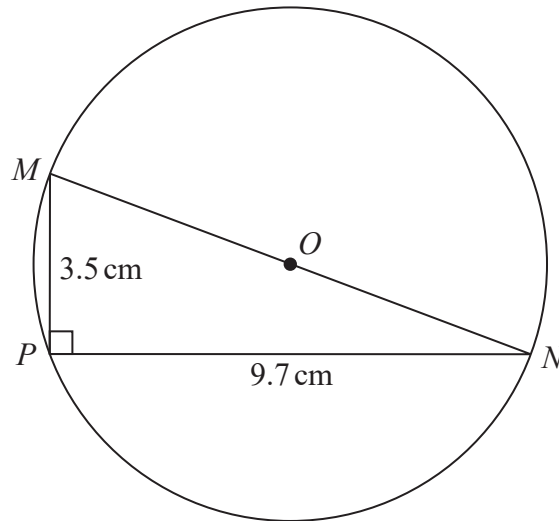
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6

Diagram **NOT** accurately drawn



M , N and P are points on a circle, centre O .
 MON is a diameter of the circle.

$MP = 3.5$ cm
 $PN = 9.7$ cm

Angle $MPN = 90^\circ$

Work out the circumference of the circle.
 Give your answer correct to 3 significant figures.

..... cm

(Total for Question 6 is 4 marks)

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7 Chao bought a boat for HK\$160 000
The value of the boat depreciates by 4% each year.

- (a) Work out the value of the boat at the end of 3 years.
Give your answer correct to the nearest HK\$.

HK\$.....
(3)

Jalina gets a salary increase of 5%
Her salary after the increase is HK\$252 000

- (b) Work out Jalina's salary before the increase.

HK\$.....
(3)

(Total for Question 7 is 6 marks)

