Instructions for SECTION 1
- This part consists of 10 questions each worth 1 mark
- Calculators are NOT to be used in this section
- Time for this section is 15 minutes
- Fill in only ONE CIRCLE for each question

Mark

1 $\dfrac{17}{1000} + \dfrac{3}{10}$ equals

   (A) 0.173   (B) 0.317   (C) 0.3017   (D) 0.47 | 1 |

2 8.5% of $80 equals

   (A) $6.80   (B) $8.50   (C) $26.00   (D) $7.90 | 1 |

3 $-5 - (-4)$ equals

   (A) -9 (B) -1 (C) 9   (D) 1 | 1 |

4 $240 is divided into the ratio 6 : 7 : 2. The smallest portion is

   (A) $32   (B) $24   (C) $16   (D) $40 | 1 |

5 $\dfrac{7.2 + \sqrt{13.14}}{4.3 \times 0.168}$ equals

   (A) 0.42   (B) 6.24   (C) 12.22   (D) 14.98 | 1 |

6 The point (3, 6) lies on the line

   (A) $x + 2y + 12 = 0$ (B) $x + 2y - 12 = 0$ (C) $2x + y + 12 = 0$ (D) $2x + y - 12 = 0$ | 1 |

7 The size of one interior angle in a regular hexagon is

   (A) $90°$ (B) $120°$ (C) $180°$ (D) $720°$ | 1 |

8 $\left(-3b^2\right)^3$ can be expanded to

   (A) $3b^6$ (B) $-9b^5$ (C) $-27b^6$ (D) $27b^6$ | 1 |

9 The correct solution to the inequality $\dfrac{-2x}{5} < 4$ is

   (A) $x < 10$ (B) $x > 10$ (C) $x > -10$ (D) $x < -10$ | 1 |

10 The area of a rectangle is $\left(3x^2 + 5x - 2\right)$ units². If the length of the rectangle is $(x + 2)$ units, then the width in units is

   (A) $2x - 4$ (B) $2x + 3$ (C) $3x - 1$ (D) $3x + 2$ | 1 |

End of Section 1

Total marks achieved for SECTION 1   /10

EXAM PAPER 3 **SECTION 2 — PART**

Instructions for SECTION 2 (PART A)
- This part consists of 25 questions each worth 1 mark
- Calculators may be used
- Time for this section is 25 minutes
- Only provide your final answer in the space provided

Questions	Answers	Ma
11 Increase $800 by 10%.		1
12 Simplify $\left(2a^3\right)^2$.		1
13 Expand and simplify $(a+b)(a-b)$.		1
14 Simplify $2\sqrt{7}+5\sqrt{7}-3\sqrt{7}$.		1
15 Calculate the volume of a cube of side 3 cm.		1
16 What fraction is 2 metres of 40 kilometres?		1
17 Simplify $\dfrac{x^2 y}{2} \div xy^2$.		1
18 Find the average speed of a train which travels 60 km in 30 minutes.		1
19 Calculate $\sqrt{304.1}+(30.41)^2$ to five significant figures.		1
20 Convert 2.5 mL to litres.		1
21 Convert 4.1818×10^{-3} to decimal notation.		1
22 The mean of 7, 4 and x is 5. Find the value of x.		1
23 Simplify $\left(64x^3 y^6\right)^{\frac{1}{3}}$.		
24 Solve the equation $2x-5=13$.		
25 Expand $\left(x^2+y^2\right)(x+y)$.		

Continued on next page

Questions	Answers	Marks

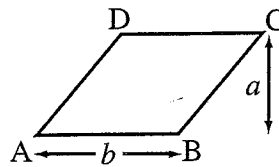**26** $5m - (4 - 3m)$ equals: — 1

27 How many significant figures in 0.0105? — 1

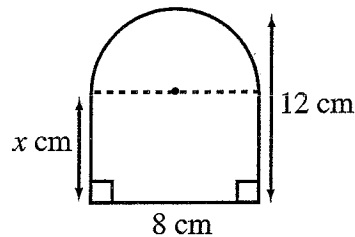**28** Give the area of a square park with side 0.1 km (in square kilometres). — 1

29 Find the area of the rhombus $ABCD$. — 1

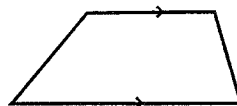**30** The diagram shows a rectangle and a semi-circle. Find x. — 1

31 Simplify $\dfrac{6x^2}{8} \times 4$. — 1

32 Calculate $\sqrt{304.1} + (3.041)^2$ to five significant figures. — 1

33 What type of plane shape is this? — 1

34 A bus leaves its starting point at 9:57 a.m. and arrives at its destination at 1:09 p.m. How long did the journey take? — 1

35 If $xy = 5$ and $(x + y) = 2$, find the value of $\dfrac{1}{x} + \dfrac{1}{y}$. — 1

End of Part A — Go on to Part B
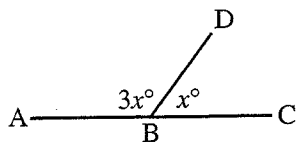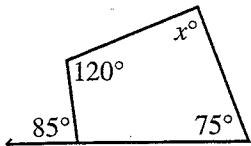
Total marks achieved for SECTION 2 — PART A /25

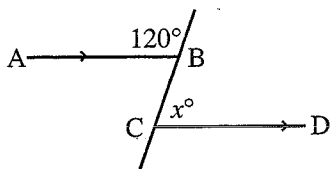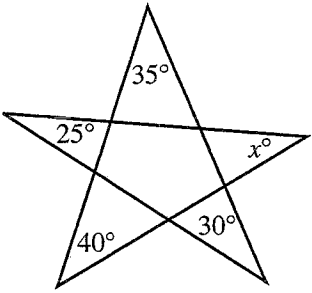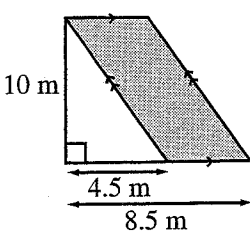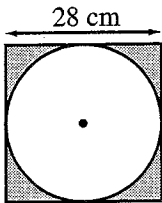**EXAM PAPER 3**   **SECTION 2 — PAR**

Instructions for SECTION 2 (PART B)
- This part consists of 3 questions each worth 5 marks
- Calculators may be used
- Time for this section is 20 minutes
- Show all neccesary working
- Marks may be deducted for untidy or badly arranged work

Questions	Answers	M:

36 a   Make y the subject of the formula $A = \dfrac{B}{y^2}$.   [

Solve the following equations:

b $5(a-2) = 15$ [

c $\dfrac{3p-7}{2} = 7$ [

d $\dfrac{5m}{6} - \dfrac{m}{2} = 14$ [

e   Solve the following pair of simultaneous equations:
$x + 5y = 18$
$x - 2y = -3$ [

Questions	Answers	Marks

37 Find the value of x in the following. Give reasons.

a

| | 1 |

b

| | 1 |

c

| | 1 |

d

| | 2 |

38 Find the shaded areas in each of the following diagrams.

a

| | 3 |

b

| | 2 |

End of Exam

Total marks achieved for SECTION 2 — PART B   **15**

Answers

PAGE 106 1 B 2 A 3 B 4 A 5 D 6 D 7 B 8 C 9 C 10 C

PAGE 107 11 $880 12 $4a^6$ 13 $a^2 - b^2$ 14 $4\sqrt{7}$ 15 $27\,\text{cm}^3$ 16 $\dfrac{1}{20\,000}$ 17 $\dfrac{x}{2y}$ 18 $120\,\text{km/h}$ 19 942.21 20 $0.0025\,\text{L}$ 21 0.004181_8

22 $x = 4$ 23 $4xy^2$ 24 $x = 9$ 25 $x^3 + xy^2 + x^2y + y^3$

PAGE 108 26 $8m - 4$ 27 3 28 $0.01\,\text{km}^2$ 29 $ab\,\text{units}^2$ 30 $x = 8\,\text{cm}$ 31 $3x^2$ 32 26.686 33 Trapezium 34 $3\,\text{h}\,12\,\text{min}$ 35 $\dfrac{2}{5}$

PAGE 109 36 a $y = \pm\sqrt{\dfrac{B}{A}}$ b $a = 5$ c $p = 7$ d $m = 42$ e $x = 3, y = 3$

PAGE 110 37 a $x = 45°$ b $x = 70°$ c $x = 60°$ d $x = 50°$ 38 a $40\,\text{m}^2$ b $168.25\,\text{cm}^2$