

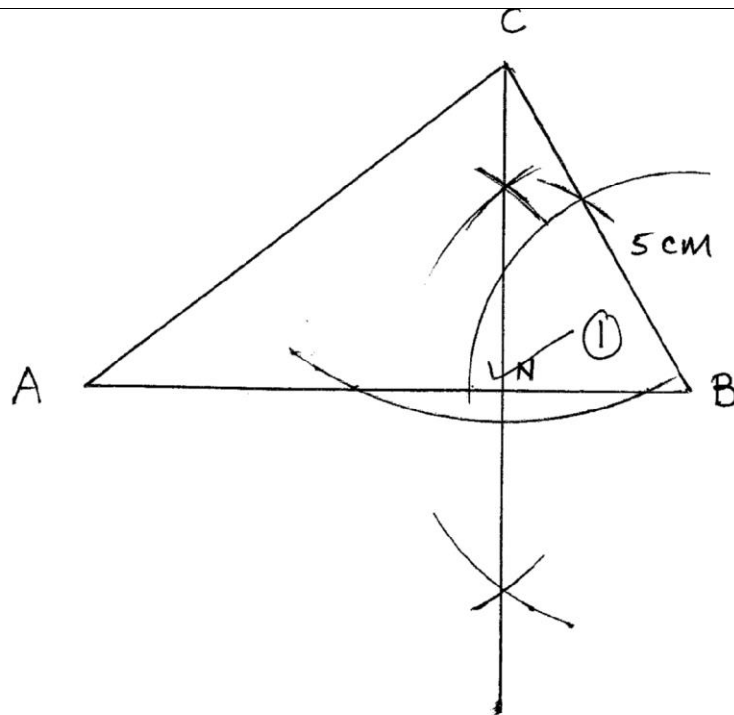
MARKING SCHEME
FORM II MATHEMATICS
END TERM 1

1.	$\frac{-8 \div 2 + 12 \times 9 - 4 \times 6}{56 \div 7 \times 2}$ $= \frac{-4 + 108 - 24}{8 \times 2}$ $= \frac{80}{16}$ $= 5$	M1 M1 A1 <u>A3</u>
2.	Distance = $56 \times \frac{5}{2}$ = 140 KM	M1 <u>A1</u> 2
3.	$y = -\frac{3}{2}x + \frac{1}{2}$ $M = -\frac{3}{2}$ when $y = 0$, $3x = 1$, $x = \frac{1}{3}$ $(\frac{1}{3}, 0)$ when $x = 0$, $2y = 1$, $y = \frac{1}{2}$	M1 A1 <u>A1</u> 3
4.	$0.1555 + 0.2809 \times 2 + 0.1175$ = $0.1555 + 0.5618 + 0.1175$ = 0.8348 = 0.835	M1 <u>A1</u> 2
5.	$(3^3)^{2/3} \times [\frac{3^4}{2^4}]^{-4}$ = $\frac{3^2 \times 3^{-1}}{2^{-1}} = \frac{3^{2+ -1}}{2^{-1}}$ = $3^1 \times 2^1$ = 6	M1 B1 <u>A1</u> 3

	4	
10	$y = \frac{2}{5}x + 5$ $M_1 = M_2 = \frac{-2}{5}$ <i>M1</i> $y = \frac{-2}{5}x + c \Rightarrow c = 5 - \frac{-2}{5}x^2$ <i>M1</i> $= 4\frac{1}{5} \text{ or } \frac{21}{5}$ <i>B1</i> $y = \frac{-2}{5}x + \frac{21}{5} \text{ or } 5y + 2x = 21$ <u><i>A1</i></u> 4	
11	$2x + 3y = 1$ (i) <i>B1</i> $3x - 2y = 8$ (ii) $4x + 6y = 2$(i) x 2 <i>M1</i> $+ \underline{9x - 6y = 24}$(ii) x 3 $13x = 26$ $x = \frac{26}{13} = 2$ <i>A1</i> From equation (i) $2 \times 2 + 3y = 1$ $3y = 1 - 4$ $y = \frac{-3}{3}$ $= -1$ <u><i>A1</i></u> 4	
12	$M. P \times \frac{90}{100} = 3150$ <i>M1</i> $M. P = \frac{3150 \times 100}{90}$ $= 3500/=$ <u><i>A1</i></u> 2	
13	$3.\dot{7}\dot{1} = n = 3.717171 \dots \dots \dots$ <i>M1</i> $10n = 37.1717\dots$ $1000n = 3717.1717\dots$ $1000n - 10n = 3717.1717 - 37.1717$ $990n = 3680$ <i>B1</i> $n = \frac{3680}{990}$ $= \frac{368}{99}$	

	$= 3 \frac{71}{99}$	$\frac{A1}{3}$												
14	<table><tr><td>Days</td><td>Huts</td><td>People</td><td></td></tr><tr><td>30</td><td>5</td><td>7</td><td>M1</td></tr><tr><td>27</td><td>9</td><td>?</td><td></td></tr></table> No. of day decrease, workers increase in the ratio 30:27 B1 No. of huts increase, workers increase in the ratio 9:5 People required = $\frac{30}{27} \times \frac{9}{5} \times 7$ = 14	Days	Huts	People		30	5	7	M1	27	9	?		$\frac{A1}{3}$
Days	Huts	People												
30	5	7	M1											
27	9	?												
15	$x + 5x = 180^\circ$ $6x = 180^\circ$ $x = \frac{180^\circ}{6}$ $= 30^\circ$ Angle of triangle at the center of polygon $180^\circ - 150^\circ = 30^\circ$ B1 Number of sides = $\frac{360^\circ}{30^\circ}$ = 12	$\frac{A1}{3}$												

16



B 2

$$CN = 4.3 \text{ CM} \pm 1 \text{ MM}$$

B1

$$AB = 8 \text{ CM.}$$

$$\begin{aligned} \text{Area of } \triangle ABC &= \frac{1}{2} \times 8 \times 5 \\ &= 20 \text{ cm}^2 \end{aligned}$$

$$\frac{A1}{5}$$

17

$$a. \quad y = -\frac{3}{4}x + 4$$

$$y = -3 + 2x$$

x	-2	0	2
y	7	4	1

✓

✓

x	-2	0	2
y	-7	-3	1

✓

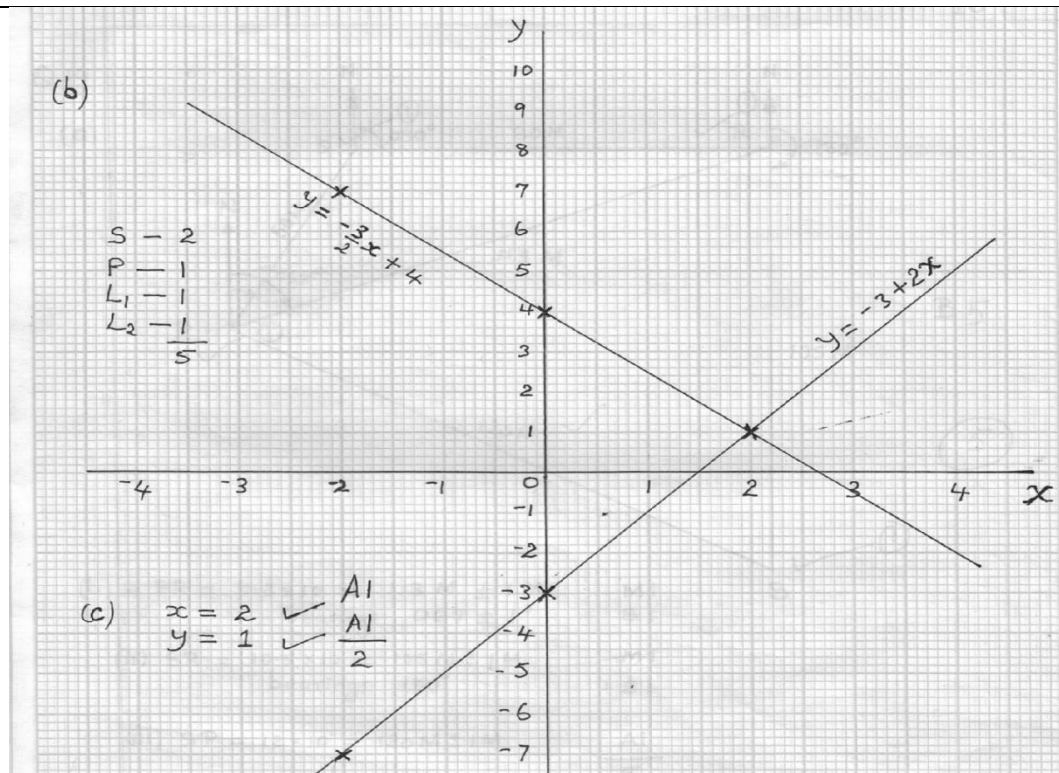
✓

$$\text{All } 4 - 3$$

$$3 - 2$$

$$2 - \frac{1}{3}$$

$$\frac{5}{3}$$



- 18 Area of ceiling $(10 \times 7) = 70 \text{ m}^2$
 Area of walls $(7 \times 4)2 = 56 \text{ m}^2$
 Area of walls $(10 \times 4)2 = 80 \text{ m}^2$

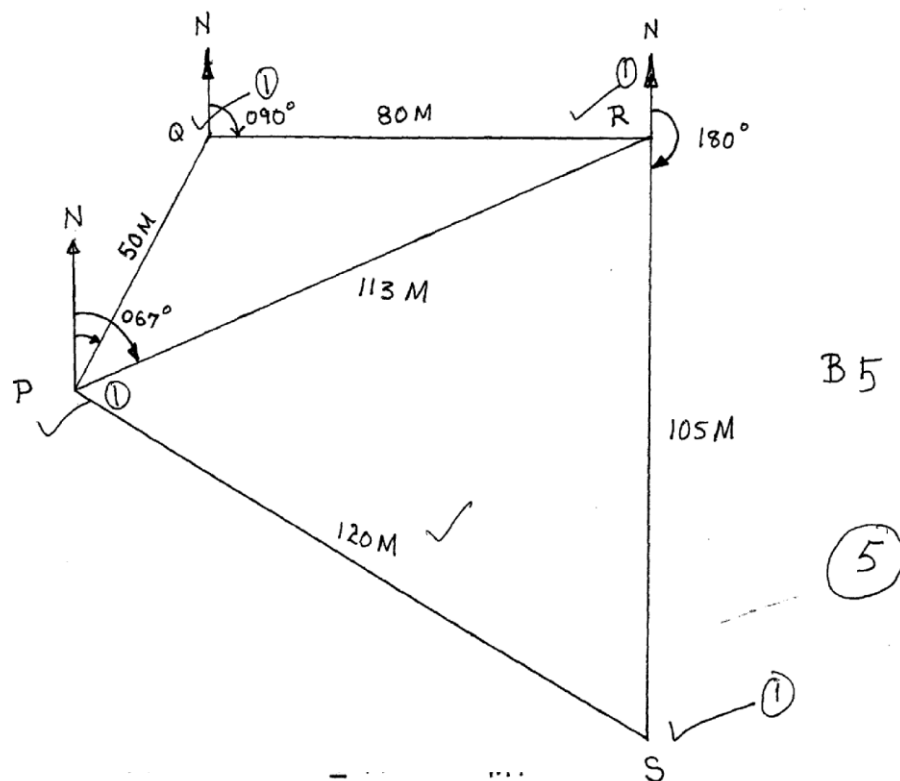
Total surface area $= 70 + 56 + 80 = 206 \text{ m}^2$
 Cost of painting $= 206 \times 200$
 $= 41,200$

B2
 B2
 B2
 B2
 M1
A1
 10

19

19

(a)



b) (i) $PR = 11.3 \times 10 = 113 \text{ M} \pm 1 \text{ M}$

M1

(ii) $PR = 11.3 \times 10 = 113 \text{ M} \pm 1 \text{ M}$

B1

Bearings $067 \pm 1^\circ$

(iii) $SR = 10.5 \times 10 = 105 \text{ M} \pm 1 \text{ M}$

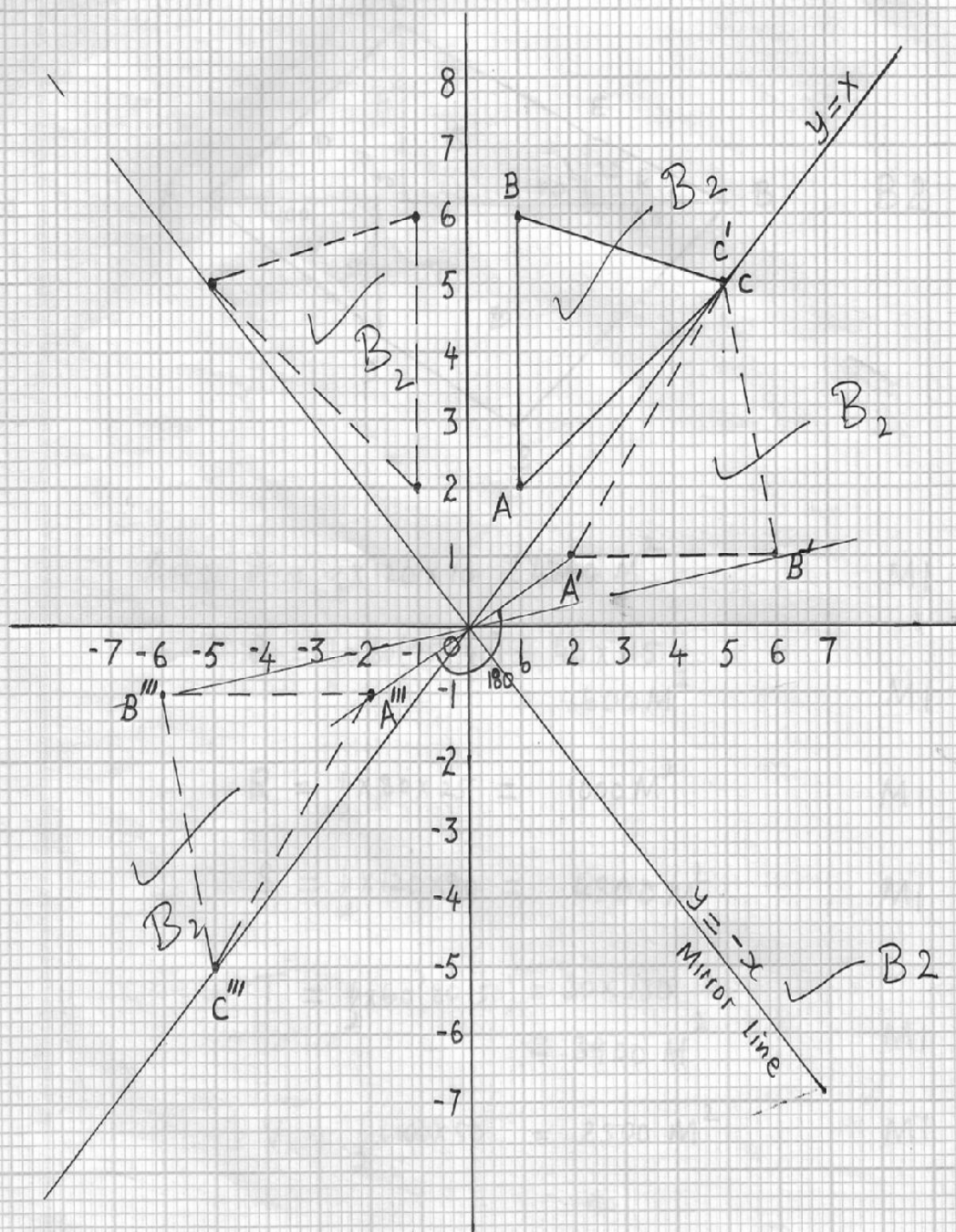
M1

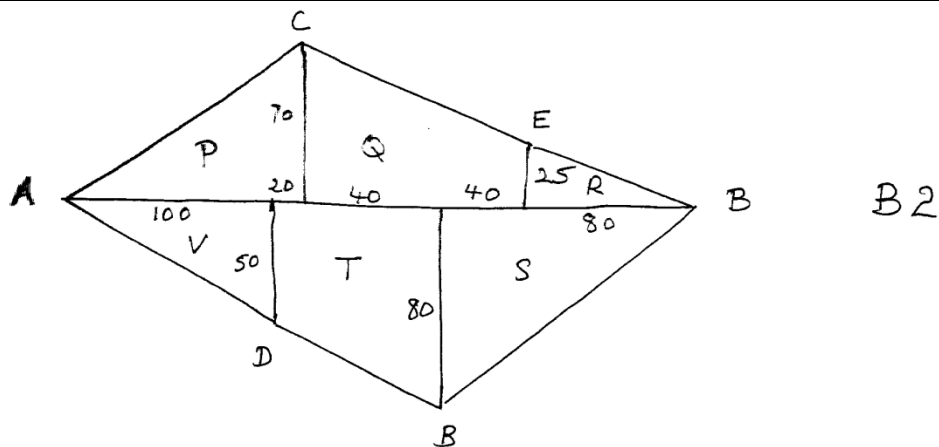
Bearings 180°

A1

5

Q20





Area $P = \frac{1}{2} \times 120 \times 70 = 4200 \text{ m}^2$
 $Q = \frac{1}{2} \times 80 (75+40) = 40 \times 115$
 4600 m^2

M1

M1

$$R = \frac{1}{2} \times 80 \times 25 = 1000 \text{ m}^2$$

M1

$$S = \frac{1}{2} \times 120 \times 80 = 4800 \text{ m}^2$$

M1

$$T = \frac{1}{2} \times 60 (80 + 50) = 30 \times 130$$

$$3900 \text{ m}^2$$

M1

$$V = \frac{1}{2} \times 100 \times 50 = 2500 \text{ m}^2$$

M1

$$\text{Total Area} = 4200 + 4600 + 1000 + 4800 + 3900 + 2500 = 21\,000 \text{ m}^2$$

A1

$$= \frac{21000}{10000}$$

$$= 2.1 \text{ ha}$$

A1

10