

No 1 a)

C - cost

D - Distance

$$C = a + Dd$$

$$500,000 = a + 100b \text{ --- (1)}$$

$$305,000 = a + 35b \text{ --- (2)}$$

Solving (1) & (2)

$$a = 200,000$$

$$b = 3000$$

$$\text{eq. } C = 200,000 + 3000D$$

$$\text{Time} = 10:45 - 8:00 = 2 \text{ hrs } 45 \text{ min.}$$

$$D = 50 \times 2\frac{3}{4}$$

$$= 137.5 \text{ km.}$$

$$C = 200,000 + 3000 \times 137.5$$

$$C = 612,500$$

$$\text{Fuel} = \frac{25}{100} \times 612,500 = 153,125 \text{ f}$$

b)

$$110,000 = 200,000 + 3000D$$

$$\frac{3000D}{3000} = \frac{-90,000}{3000}$$

$$D = -30 \text{ km.}$$

$$\text{Distance} = 30 \text{ km}$$

$$D_1 = 2 \times 50 = 100 \text{ km} \quad D_2 = 50 \times 0.7 = 35 \text{ km}$$

BI

BI

MI AI

MI AI

AI

BI

MI

BI

MI

AI

MI

AI

MI

MI

BI

AI

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No 2. Target = $2x$

Suits = y

a) ~~Joseph~~

$5x + 6y \leq 60$ — (1) A1

Casa

$4x + 10y \leq 60$ — (2) A1

$x \geq 8$ — (3) A1

$y \geq 0$ — (4) A1

(1) $\begin{array}{c|c|c} x & 0 & 12 \\ \hline y & 10 & 0 \end{array}$

$(0, 10)$ $(12, 0)$

(2) $\begin{array}{c|c|c} x & 0 & 15 \\ \hline y & 6 & 0 \end{array}$

$(0, 6)$ $(15, 0)$

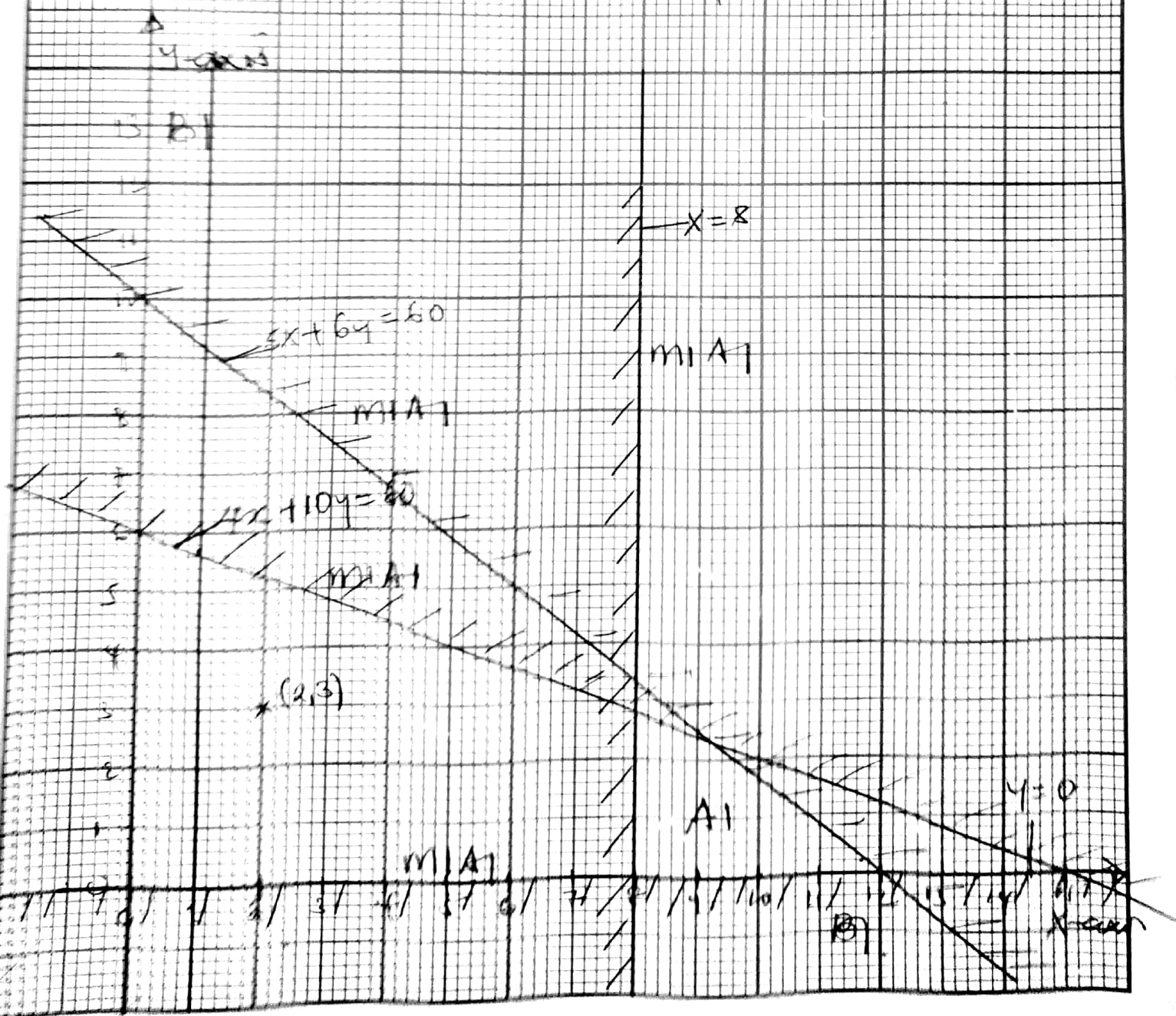
Test (1) $(2, 3)$

(1) $28 \leq 60$ Yes B1

(2) $38 \leq 60$ Yes

(3) $2 \geq 8$ No

(4) $3 \geq 0$ Yes



c)

(X, Y)

$$(9, 2) \quad 9 \times 30,000 + 2 \times 100,000 = 470,000$$

$$(9, 1) \quad 9 \times 30,000 + 1 \times 100,000 = 370,000$$

$$(8, 2) \quad 8 \times 30,000 + 2 \times 100,000 = 440,000$$

$$(8, 1) \quad 8 \times 30,000 + 1 \times 100,000 = 340,000$$

$$(0, 1) \quad 10 \times 30,000 + 1 \times 100,000 = 400,000$$

470,000 ^{AI} when they make 9 ^{AI} jackets and 2 suits.

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Alp (2)

| Weight | f | x | fx | cf | cb |
|--------|----|-----|-------|----|-----------|
| 1-10 | 8 | 45 | 36 | 8 | 0.5-10.5 |
| 11-20 | 14 | 145 | 203 | 22 | 10.5-20.5 |
| 21-30 | 12 | 245 | 294 | 34 | 20.5-30.5 |
| 31-40 | 9 | 345 | 310.5 | 43 | 30.5-40.5 |
| 41-50 | 7 | 445 | 311.5 | 50 | 40.5-50.5 |

$\Sigma f = 50$ $\Sigma fx = 1155$

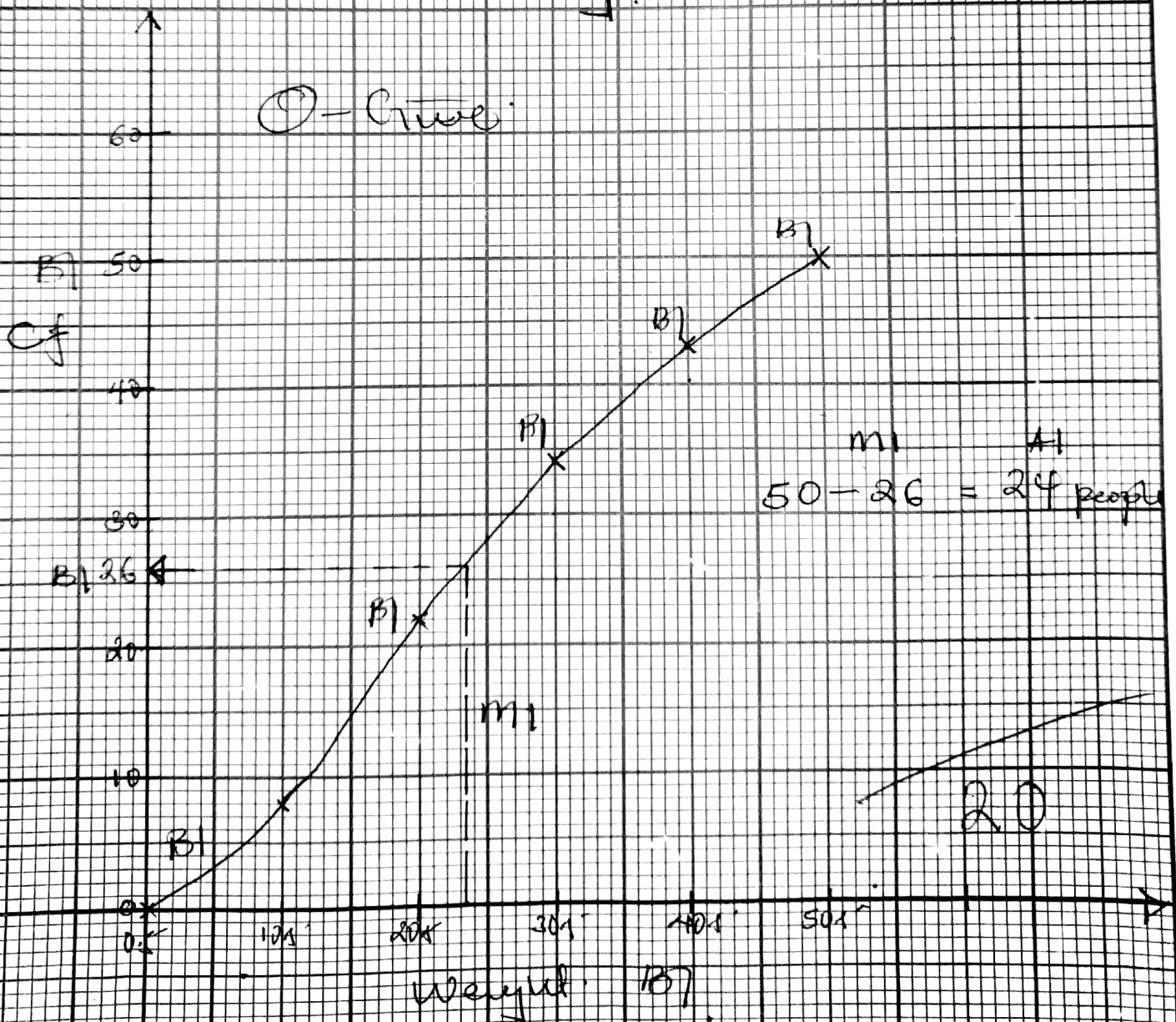
$\bar{X} = \frac{1155}{50} = 23.1$

m1

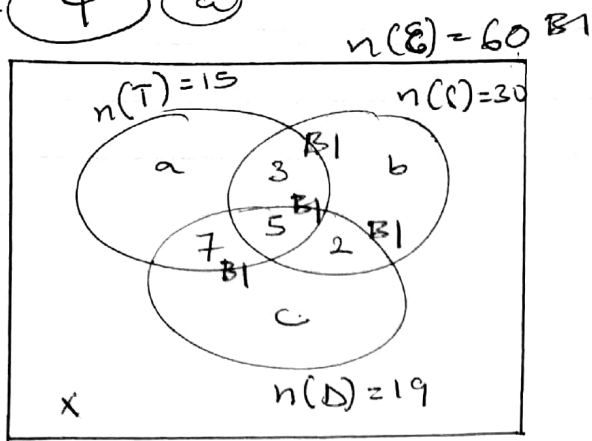
A1

A1 - Settlement

○ - Curve



No. (f) (a)



$$30 + 7 + 5 + x = 60 \text{ mi}$$

$$42 + x = 60$$

$$x = 18 \text{ members}$$

$$a + 3 + 5 + 7 = 15 \text{ mi}$$

$$a = 0 \text{ BI}$$

$$b = 20 \text{ mi BI}$$

$$c = 5 \text{ BI}$$

(b)

$$\text{Event} = 7 + 5 + 3 + 2 = 17 \text{ mi}$$

$$\text{Prob.} = \frac{17}{60} \text{ mi AI}$$

(c)

$$\text{Prob (S only)} = \frac{20}{60} = 0.333 \dots \text{ BI}$$

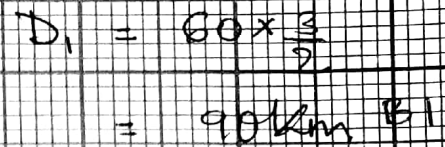
$$\text{Prob (T only)} = \frac{0}{60} = 0. \text{ BI}$$

$$\text{Prob (D only)} = \frac{5}{60} = 0.08 \text{ BI}$$

\therefore He should buy Star masters (S) more because of the 0.333 or $(\frac{1}{3})$ probability that's greater than 0.1 . AI

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Sketch



$$D_2 = 60 \times \frac{2}{3} = 40 \text{ km} \quad (17)$$

Bg Sch: 50h

$$11.6 \text{ cm m} \quad |$$

$$11.6 \times 10 = \underline{116 \text{ km}}$$

$$\angle 180^\circ + 30 = 210^\circ$$

Reaction of 210°Al with Al from
Bubembe to merge.

d) $T = \frac{50}{60} = 50 \text{ mm/s}$ in

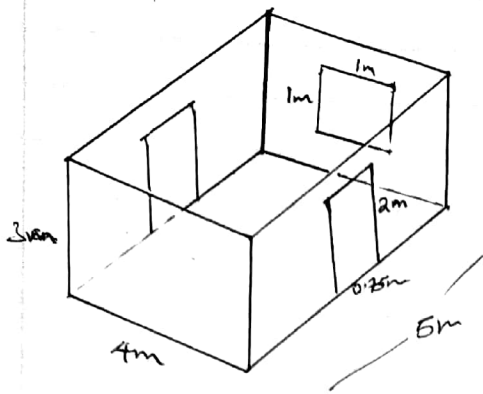
9:30
+ 50

11:20 AM

mi

A.

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$$A_R = 2(3 \times 4) + 2(3 \times 5) \\ = 54 \text{ m}^2$$

m1
B1

$$A_w = 1 \text{ m}^2$$

$$A_D = 2 \times 0.75 = 1.5 \text{ m}^2 \\ (1.5 + 1.5) = 3 \text{ m}^2$$

m1 B1
B1

$$A_P = 54 - (1 + 3)$$

$$A_P = 50 \text{ m}^2 \text{ to be printed.}$$

m1
B1

$$\text{Labour} = 50 \times 800 = 40,000 \text{ f.}$$

m1

$$\text{Print money} = \frac{50}{10} = 5 \text{ of 4 litres.}$$

m1

$$5 \times 70,000 = 350,000 \text{ f.}$$

m1 B1

$$\text{Total cost} = 350,000 + 40,000 = 390,000 \text{ f.}$$

m1 A1

Yes it is possible b/c $390,000 < 400,000$ A1

b)

$$\frac{10}{100} \times 40,000 = 4,000 \text{ Savings off Labour.}$$

m1

$$4 \text{ litres} = 70,000 \text{ f.}$$

$$1 \text{ litre} = 17,500 \text{ f.}$$

$$\frac{5}{100} \times 17,500$$

m1

$$= 875 \text{ f. off @ litre}$$

$$\Rightarrow (5 \times 4) \text{ litres} \times 875 = 17,500 \text{ Savings off print.}$$

m1

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$$\therefore \text{Total Savings} = 4,000 + 17,500 + 19,000 = 31,500 \text{ f.}$$