

# Prelim paper 1: (Arbroath Ac).

Q1.  $\frac{120}{360}$  of 252.

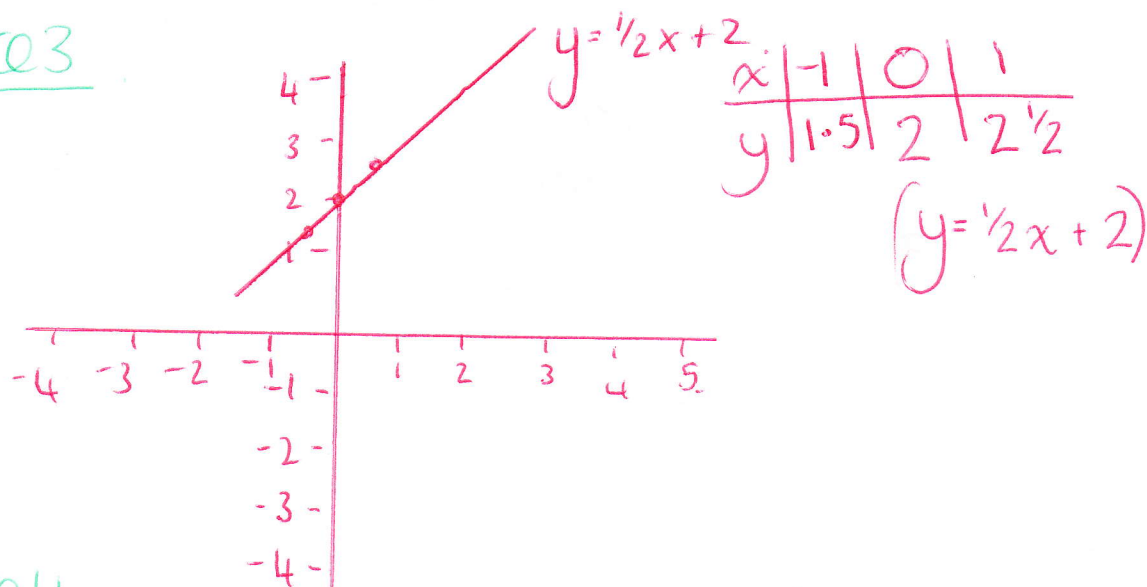
$$\frac{1}{3} \text{ of } 252 = \frac{084}{3 \overline{)252}}$$

$$= \underline{\underline{84}}$$

Q2.  $49x^2 - 16 \Rightarrow (7x)^2 - (4)^2$

$$(7x - 4)(7x + 4)$$

Q3



Q4. 28,000 passengers  
(27,582)  
↑ rounds up

Q5. (a)  $A = L \times b$

$$= (m+7)(m-3)$$

(b)  $A = m^2 - 3m + 7m - 21$  (Multiply using foil)  
 $= m^2 + 4m - 21 //$

Q6.

$$\angle ABD = 40^\circ$$

$$\angle ADB = 90^\circ \text{ (angle in a semi circle produces)}$$

$$\angle BAD = 180 - 90 - 40$$

$$= \underline{50^\circ}$$

$$\angle DAE = 90 - 50$$

$$= \underline{40^\circ}$$

$\Delta ADE$  is isosceles

therefore  $180^\circ - 40^\circ = 140^\circ \div 2$  (equal angle).

$$\underline{\underline{\angle ADE = 70^\circ}}$$

Q7. 32

(a) + 39

~~32, 39, 41, 35, 38, 44, 40, 39, 38, 36~~

(i) ensure data is in order

~~32, 33, 35, 36, 38, 39, 39, 40, 41, 44~~

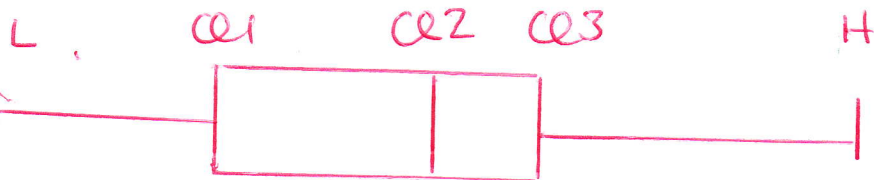
$$Q2 = \frac{38+39}{2} = 38.5p$$

(b)  $Q1 = 35$

$Q3 = 40$

~~LE 32~~

~~HF 44~~



30 35 40 44 45

$$(a) 2R + 4A = 4.44 \quad (1)$$

$$(b) 5R + 3A = 5.15 \quad (2)$$

$$10R + 20A = 22.20 \quad (3) \quad (1) \times 5$$

$$10R + 6A = 10.30 \quad (4) \quad (2) \times 2$$

$$10R + 20A = 22.20$$

$$\underline{10R + 6A = 10.30 \quad (4)}$$

$$14A = 11.90$$

$$14A = 11.90$$

$$A = \frac{11.90}{14}$$

$$A = 0.85$$

Sub A into (1)

$$2R + 4 \times 0.85 = 4.44$$

$$2R + 3.40 = 4.44$$

$$2R = 1.04 \div 2$$

$$R = 0.52$$

$$(3) - (4)$$

$$10R - 10R = 0 \quad \checkmark$$

$$10R + 10R = 20R \quad \times$$

$$0.85$$

$$\times 4$$

$$\underline{3.40}$$

$$3.2$$

$$4.44$$

$$- 3.40$$

$$\underline{1.04}$$

$$(c) 4R + 2A = 4 \times 0.52 +$$

$$2 \times 0.85$$

$$= 2.08 + 1.70$$

$$\text{costs} \Rightarrow 3.78$$

change from

$$\pounds 5.00$$

$$- 3.78$$

$$\underline{\pounds 1.22}$$

Q9. (a)  $\frac{3}{13}$ . face  $\Rightarrow$  (Q, R, J).

(b) Red (4H11)

$\frac{4}{13}$ . even (1111).