

By Pyth.

$$a^2 = b^2 + c^2 \quad (1)$$

$$2.5^2 = 1.5^2 + x^2$$

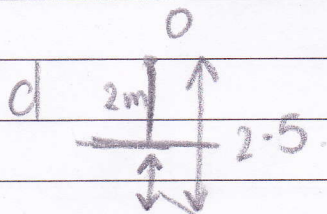
$$x^2 = 2.5^2 - 1.5^2$$

$$x^2 = 6.25 - 2.25$$

$$x^2 = 4$$

$$x = \sqrt{4}$$

$$= \underline{\underline{2 \text{ m}}} \quad (1)$$



$$2.5 - 2 = 0.5 \quad d = 0.5 \quad (1)$$

Q7  $3y = 12 - 4x$

cuts x-axis when

$$3 \times 0 = 12 - 4x$$

$$0 = 12 - 4x$$

$$4x = 12$$

$$x = \underline{\underline{3}} \quad (1)$$

$$y = 0$$

coordinates (3, 0) (1)

Q8  $\frac{120}{360} \times \pi \times (15.7)^2$

$$A = \frac{(1)}{2} \pi r^2$$

$$= \underline{\underline{774.371}}$$

$$= \underline{\underline{258.12 \text{ cm}^2}} \quad (1)$$



$$V = \underline{\underline{650 \text{ m}^3}} \text{ to 2 sf.}$$

$$(b) \text{ New } V = 200$$

$$V = (3 \times W) + \left(\frac{1}{2} \times 2 \times W\right) \times 12$$

$$200 = (3W + W) \times 12$$

$$200 = 4W \times 12$$

$$4W = 200 \div 12$$

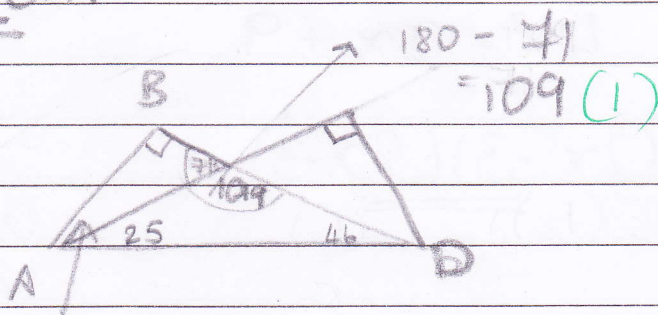
$$4W = 16.666$$

$$W = \underline{\underline{4.17 \text{ cm}}}$$

maybe 2  
on that  
side.

4

$$\angle DBA = 90^\circ (1)$$



$$\angle BAC = 19 (1)$$

5.

$$\begin{matrix} (0, 2) & (8, 6) \\ x_1 & x_2 \\ y_1 & y_2 \end{matrix}$$

$$m = \frac{6-2}{8-0} = \frac{4}{8} = \frac{1}{2} (1)$$

$$y = \frac{1}{2}x + c$$

$$y = \underline{\underline{\frac{1}{2}x + 2}} (1)$$

(1)

Intermediate 2 Mathematics  
Unit 1 A/B Test.

Q1 Option 1

$$20,000 \times 1.05^3 \quad (1)$$
$$= \underline{\underline{23152.5}} \quad (1)$$

Gail should go  
for  
option 1 (1)

Option 2

$$20,000 \times 1.15 \quad (1)$$
$$= \underline{\underline{23,000}} \quad (1)$$

Q2. (a)  $5x^2 - 125$

$$5(x^2 - 25) \quad (1)$$
$$5(x-5)(x+5) \quad (1)$$

(b)  $4x^2 - 12x + 9$

$$(2x-3)(2x-3)$$

(1) (1)

(4)  
 $x \times 4x$   
 $2x \times 2x$

(9)  
 $1 \times 9$   
 $3 \times 3$

$(2-3) = -6$   
 $(2-3) = -6$

Q3 (1) Area of half cylinder

$$A = \pi \times (3.5)^2$$
$$= 38.48 \text{ m}^2$$

Ans  $\div 2$  (semicylinder)

$$= 19.24 \text{ m}^2$$

Total cross section  
 $\Rightarrow$  (1) + (2)  
 $= 19.24 + 35$   
 $= 54.24 \text{ m}$

(2) Area of rectangle

$$A = l \times b$$
$$= 5 \times 7$$
$$= 35 \text{ m}^2$$

Volume  $\Rightarrow A \times h$   
 $= 54.24 \times 12$   
 $V = 650.9 \text{ m}^3$