

DIAGNOSTIC

Jan 2012

1 IF $(x - 5) = -7.5$

What is $x = -7.5 + 5$?
 $= -2.5$

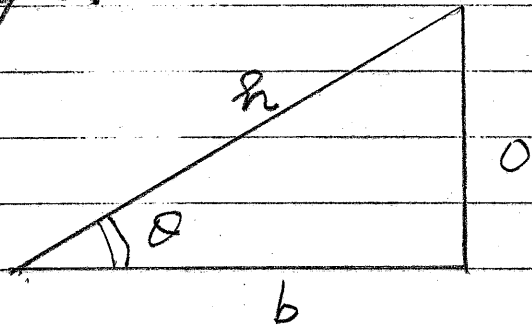
2. $(x + y) = 2$ Add $2x = 2.25$
 $(x - y) = 0.25$ $x = 1.125$

Calculate x and y

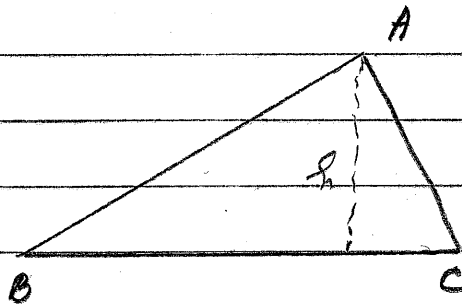
$x = 1.125$ $y = x - 0.25 = 0.875$

3 Consider the triangle:

- (i) $\sin \theta = o/h$?
- (ii) $\tan \theta = o/b$?
- (iii) $o^2 + b^2 = h^2$?



4 Area of $\Delta(ABC)$
 $= \frac{1}{2} h (\overline{BC})$?



$\frac{1}{2} \times \text{Base} \times \text{Height}$

$$5. \quad (x+y)(x-y) = x^2 - xy + xy - y^2 \\ = x^2 - y^2$$

$$6. \quad \frac{2}{3} - \frac{1}{5} = \frac{10}{15} - \frac{3}{15} = \frac{7}{15}$$

$$7. \quad 2x^2 + 5x + 3 = 0$$

What is $x = ?$ $x = \frac{-5 \pm \sqrt{25 - 12}}{4} = \frac{-5 \pm 1}{4}$

$$x = -1, -1.5$$

$$8. \quad (x+y)^3 = (x+y)(x+y)^2 \\ = (x^2 + 2xy + y^2)(x+y) \\ = x^3 + 3x^2y + 3xy^2 + y^3$$

9. Show that angle c
 $= (\text{angle } a + \text{angle } b)$

$$a + b + d = 180^\circ$$

$$c + d = 180^\circ$$

$$\text{So } a + b = c$$

