MATH – DIAGNOSTIC JAN 2008

PRINT YOUR NAME:

1. If $(x-5) = -8$, what is $x = ?$

$x = -8 + 5 = -3$

2. $x + y = 2$ Add Eqns. $2x = 2.5$

$x - y = 0.5$

Calculate $x = 2.5/2 = 1.25$

$y = x - 0.5 = 0.75$

3. $2x^2 + 5x + 3 = 0$ $\quad ax^2 + bx + c = 0$

Calculate $x = -1.5$ $\quad x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$= -1$

$= \dfrac{-5 \pm \sqrt{25-24}}{4} = \dfrac{-5 \pm 1}{4}$

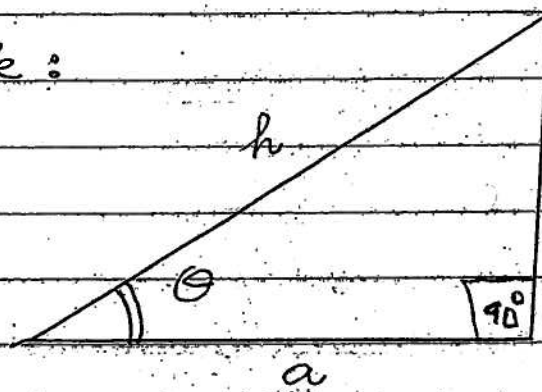
4. Consider the triangle:

(i) $\sin\theta = o/h$

(ii) $\tan\theta = a/h$

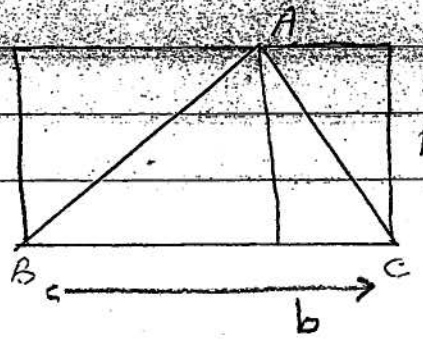
(iii) $o^2 + a^2 = h^2$

(iv) $\sin^2\theta + \cos^2\theta = 1$



5. AREA OF $\Delta(ABC) =$

$= \frac{1}{2}(b \times h)$



(OVER)

6. $(x+y)(x-y) = x^2 - xy + yx - y^2 = x^2 - y^2$

7. $(x+y)^3 = (x+y)^2(x+y) = (x^2+2xy+y^2)(x+y)$

$= x^3 + 3x^2y + 3xy^2 + y^3$

8. $\frac{2}{3} - \frac{1}{6} = \frac{4}{6} - \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$