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Barry Brookshaw

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MODULE CODE: ACHA3000

$$1 \text{ i) } x^2 + 8x + 15 = 0$$

$$(x+3)(x+5) = 0$$

$$x^2 + 5x + 3x + 15$$

$$\underline{8x}$$

$$x + 5 = 0$$

$$\boxed{x = -5}$$

$$x + 3 = 0$$

$$\boxed{x = -3}$$

$$ii \quad x^2 - 225 = 0$$

$$x^2 = 225$$

$$(x-15)(x+15) =$$

$$x^2 + 15x + (-15)x - 225 = 0$$

$$x^2 - 225 = 0$$

$$x = \sqrt{225}$$

$$\boxed{x = 15}$$

$$x = \sqrt{-225}$$

$$\boxed{x = -15}$$

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2)

$$12x^2 + 5x = 7$$

$$12x^2 + 5x - 7 = -7$$

$$12x^2 + 5x - 7 = 0$$

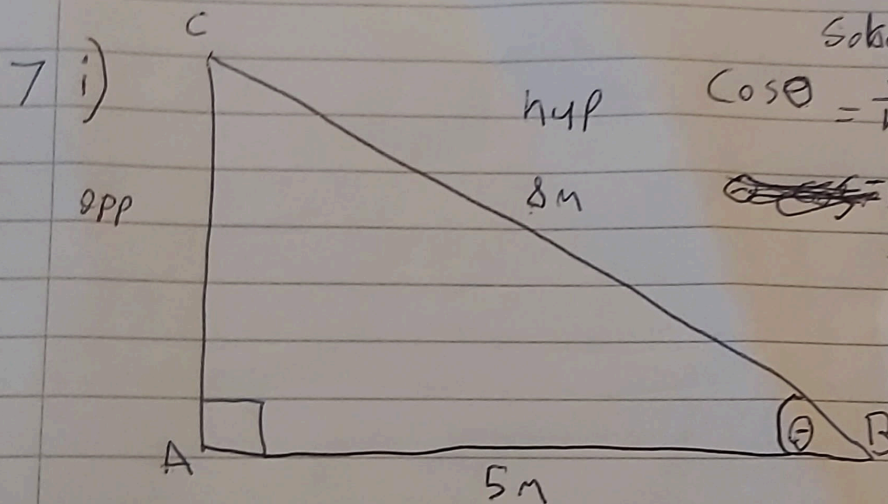
$$a=12 \quad b=5 \quad c=-7$$

$$x = \frac{-5 \pm \sqrt{5^2 - 4 \times 12 \times -7}}{2 \times 12}$$

$$x = \frac{-5 \pm \sqrt{361}}{24}$$

$$\frac{7}{12} = 0.58 = x = 0.58 \quad x = -1$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



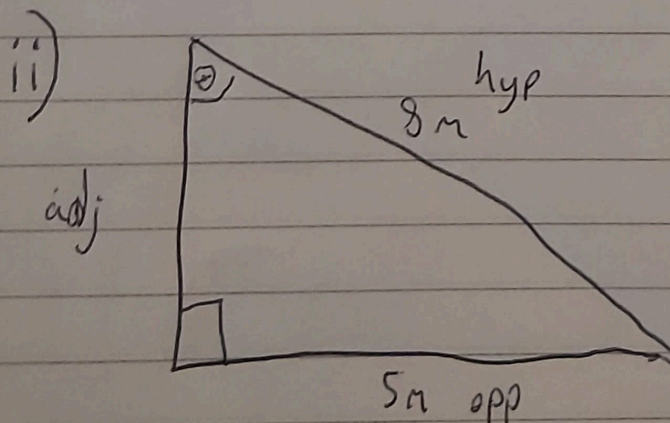
Sokchitra

$$\cos \theta = \frac{a}{h} = \frac{5m}{8m}$$

$$\theta = \cos^{-1} \left(\frac{5}{8} \right)$$

$$\theta = 51.32^\circ$$

$$\theta = 51.32^\circ$$



$$\theta = \sin^{-1} \left(\frac{5}{8} \right)$$

$$\theta = 38.68^\circ$$

$$\theta = 38.68^\circ$$

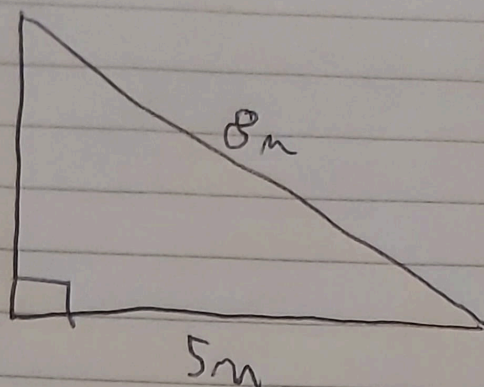
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7 iii)



$$a^2 + b^2 = c^2$$

$$b^2 = c^2 - a^2$$

$$b^2 = 8^2 - 5^2$$

$$b^2 = 64 - 25$$

$$b^2 = 39$$

$$b = \sqrt{39} = 6.24m$$

$$ac = 6.24m$$