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ACHIA3000 Introduction to Math.

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$$1-(i) x^2 + 8x + 15 = 0 \Rightarrow (x+5)(x+3) = 0$$

$$(x+5) = 0$$

$$x = -5$$

$$x+3 = 0$$

$$x = -3$$

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

$$x+15 = 0$$

$$x = -15$$

$$x-15 = 0$$

$$x = 15$$

$$(iii) \begin{array}{cc} x^2 + 11x + 30 = 0 & \Rightarrow (x+6)(x+5) = 0 \\ \begin{array}{c} x \\ x \end{array} & \begin{array}{c} +6 \\ +5 \end{array} \end{array}$$

$$(x+6) = 0 \Rightarrow x = -6$$

$$(x+5) = 0 \Rightarrow x = -5$$

$$(iv) \begin{array}{cc} x^2 - 6x + 8 = 0 & (x-4)(x-2) = 0 \\ \begin{array}{c} x \\ x \end{array} & \begin{array}{c} -4 \\ -2 \end{array} \end{array}$$

$$(x-4) = 0 \Rightarrow x = +4$$

$$(x-2) = 0 \Rightarrow x = +2$$

$$(v) \begin{array}{cc} 2x^2 + 9x + 7 = 0 & (2x+7)(x+1) = 0 \\ \begin{array}{c} 2x \\ x \end{array} & \begin{array}{c} 7 \\ 1 \end{array} \end{array}$$

$$2x+7 = 0 \quad x = -\frac{7}{2}$$

$$x+1 = 0 \quad x = -1$$