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3) Solve the following Quadratic equations by factorising

$$\text{i) } x^2 + 10x + 21 = 0 \quad \begin{array}{l} 3 \times 7 \\ 7 \times 3 \end{array}$$

$$(x+3)(x+7) = 0$$

$$x^2 + 7x + 3x + 21 = 0$$

$$x+3=0 \quad x+7=0$$

$$\boxed{x=-3 \quad x=-7}$$

$$\text{ii) } x^2 - 3x + 2 = 0 \quad -1 \times -2$$

$$(x-1)(x-2) = 0 \quad -2 \times -1$$

$$x^2 - 2x - 1x + 2 = 0$$

$$x-1=0 \quad x-2=0$$

$$\boxed{x=1 \quad x=2}$$

$$\text{iii) } x^2 + 12x + 20 = 0 \quad 2 \times 10$$

$$(x+2)(x+10) = 0 \quad 10 \times 2$$

$$x^2 + 10x + 2x + 20 = 0$$

$$x+2=0 \quad x+10=0$$

$$x \neq 2$$

$$\boxed{x=-2 \quad x=-10}$$