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ERIC GAMBRAH (2015736)

$$c) 2x^2 + 12x + 15 = 0$$

$$c) i) x^2 - 16 = 6x$$

$$x^2 - 16 - 6x = 0$$

$$(x+2)(x-8)$$

$$2 - x + 2 = 0 - 2$$

$$\underline{x = -2}$$

$$x - 8 = 0$$

$$8 + x - 8 = 0 + 8$$

$$\text{or } \underline{x = 8}$$

$$iii) x^2 = 12 - x$$

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

$$(x+4)(x-3)$$

$$x + 4 = 0$$

$$\underline{x = -4}$$

$$\text{or } x - 3 = 0$$

$$3 + x - 3 = 0 + 3$$

$$\underline{x = 3}$$

$$d) i) 3z^2 + 13z = -4$$

$$3z^2 + 13z + 4 = 0$$

$$3z^2 + 12z + 3 + 4 = 0$$

$$3z(z+4) + 1(z+4) = 0$$

$$(3z+1)(z+4) = 0$$

$$3z+1 = 0$$

$$\text{or } z+4 = 0$$

$$3z+1-1 = -1$$

$$z+4+4 = -4$$

$$\frac{3z}{3} = -\frac{1}{3}$$

$$\underline{z = -4}$$

$$\underline{z = -\frac{1}{3}}$$

$$ii) x^2 - y^2$$

$$\underline{(x-y)(x+y)}$$

$$iii) ay - bx + by - ax$$

$$y(a+b) - x(b+a)$$

$$= (y-x)(a+b)$$

$$= \underline{(a+b)(y-x)}$$