

5b)

~~5a)~~ $2x^2 + 8x + 3 = 0$

$$x^2 + 4x + \frac{3}{2} = 0$$

$$(x+2)^2 = -\frac{3}{2} + 4$$

$$= \frac{5}{2}$$

$$x = -2 \pm \sqrt{\frac{5}{2}}$$

$$= \frac{-2\sqrt{2} \pm \sqrt{5}}{\sqrt{2}}$$

$$= \frac{-4 \pm \sqrt{10}}{2}$$

$$7 \text{ a) } x^3 + 12x^2 + 48x + 64 = (x+4)^3$$

$$b) \quad x^3 + 12x^2 + 30x + 4 = 0$$

$$x^3 + 12x^2 + 48x + 64 - 18x - 60 = 0$$

$$(x+4)^3 - 18(x+4) + 12 = 0$$

$$\text{let } u = x+4$$

$$u^3 - 18u + 12 = 0$$

1H

Tuesday, 5 February 2019 2:16 PM

$$8/ \quad 3a^2 + 4b^2 + 18c^2 - 4ab - 12ac = 0$$

$$a^2 - 4ab + 4b^2 + 2(a^2 - 6ac + 9c^2) = 0$$

$$(a - 2b)^2 + 2(a - 3c)^2 = 0$$

if a, b, c are real

then

$$(a - 2b)^2 = 0 \Rightarrow a = 2b$$

$$(a - 3c)^2 = 0 \Rightarrow a = 3c$$

thus

$$\underline{a = 2b = 3c}$$