

TT 9. Possible Solutions

- a. Factor $9x^2 + 12x + 4$ by decomposition.

Product	Sum	Numbers
$9 \times 4 = 36$	12	6 and 6

$$\begin{aligned} 9x^2 + 12x + 4 &= (9x^2 + 6x) + (6x + 4) \\ &= 3x(3x + 2) + 2(3x + 2) \\ &= (3x + 2)(3x + 2) \end{aligned}$$

**** NOTE – if the factors in trinomial decomposition come out to be the same number, this will be a perfect square factoring question****

- b. A perfect square trinomial can still be factored by decomposition. Indeed, a perfect square trinomial can be factored by any of the trinomial factoring methods previously learned.