

Adam Evans 200595911/12/2020

$$(iv) (-5 - 2j)(-5 - 2j) - (2 - 5j)$$

$$(25 + 10j + 10j + 4j^2) - (2 - 5j)$$

$$(25 + 20j + 4j^2) - (2 - 5j)$$

$$(25 + 20j - 4) - (2 - 5j)$$

$$(21 + 20j) - (2 - 5j)$$

$$21 + 20j - 2 + 5j$$

$$= \boxed{19 + 25j}$$

$$6) \underset{a}{5}x^2 = \underset{b}{-3}x \underset{c}{-12} = 5x^2 + 3x + 9 = 0$$

$$x = \frac{b \pm \sqrt{b^2 - 4(a)(c)}}{2(a)}$$

$$x = \frac{-3 \pm \sqrt{(3)^2 - 4(5)(12)}}{2(5)}$$

$$= \frac{-3 \pm \sqrt{9 - 240}}{10} = \frac{-3 \pm 15.19j}{10}$$

$$x = \frac{-3 \pm 15.19j}{10}$$

$$x = \frac{-3}{10} + \frac{15.19j}{10}$$

$$x = \frac{-3}{10} - \frac{15.19j}{10}$$