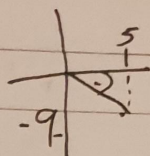


c)

i) $(5-9j)^5$



$$r^2 = 5^2 + 9^2$$

$$r = 10.30$$

$$\tan \theta = \frac{9}{5} \quad \theta = 60.95^\circ$$

$$\theta = 360 - 60.95$$

$$\theta = 299.05^\circ$$

$$10.3^5 (\cos(5)(299.05) + j \sin(5)(299.05))$$

$$115927.41 (0.57 + j 0.82j)$$

$$66078.39 + 95060.14j$$

d) $j^7 = -j$

e) The conjugate of g

Q3)

i) $\int (x^8 + 2x^2)(3x^2 + x) dx$

$$\int 3x^{10} + x^9 + 6x^4 + 2x^3 dx$$

$$= \frac{3x^{11}}{11} + \frac{x^{10}}{10} + \frac{6x^5}{5} + \frac{2x^4}{4} + C$$