

Term 2 Week 8

1. $\int \sqrt{1-x} \cdot \sqrt{x+3} \, dx$

2. Solve the system of equations for both x and y :

$$\sin x \cos y = \frac{1}{4}$$

$$\sin y \cos x = \frac{3}{4}$$

3. If $\arg\left(\frac{z-6}{z-2}\right) = \frac{\pi}{4}$, give the equation of the locus of $P(x, y)$.

Recall that $\arg(z_1 z_2) = \arg(z_1) + \arg(z_2)$ and $\arg\left(\frac{z_1}{z_2}\right) = \arg(z_1) - \arg(z_2)$

4. ABCD is a rectangle. PQ = 3cm and QR = 2cm.

Find the radius of the third circle.

