

Coordinate Geometry

Term 1 Week 4

Date:

No.

$$\begin{aligned} 1a. \quad & \frac{-1+3}{3-2} = \frac{k+1}{4-3} \\ & \frac{2}{1} = \frac{k+1}{1} \\ & 2 = k+1 \\ & k = 1 \quad \# \end{aligned}$$

$$\begin{aligned} 3a. \quad & 2y + \frac{1}{2}x = 6 \\ & 2y = -\frac{1}{2}x + 6 \\ & y = -\frac{1}{4}x + 3 \\ & \text{Gradient} = -\frac{1}{4} \end{aligned}$$

$$\begin{aligned} 1b. \quad & m = -1 \quad \# \\ & y = -x + c \quad (2, 3) \\ & 3 = -2 + c \\ & c = 5 \quad \# \\ & \therefore y = -x + 5 \end{aligned}$$

$$\begin{aligned} 3b. \quad & \text{When } x=0 \\ & y = 3 \\ & \text{Pt of intersection} = (0, 3) \quad \# \end{aligned}$$

$$\begin{aligned} 2a. \quad & y = \frac{1}{4}x - 2 \quad \text{when } y = -1 \\ & -1 = \frac{1}{4}x - 2 \\ & = -3 \\ & b = -3 \quad \# \end{aligned}$$

$$\begin{aligned} 4i. \quad & \frac{1}{2}x - 2y = 2 \\ & 2y = \frac{1}{2}x - 2 \\ & y = \frac{1}{4}x - 1 \\ & \text{Gradient} = \frac{1}{4} \quad \# \end{aligned}$$

$$\begin{aligned} 2b. \quad & B = (-1, -3) \\ & y = \frac{1}{2}x + k \\ & -3 = -\frac{1}{2} + k \\ & k = -3 + \frac{1}{2} \\ & = -2\frac{1}{2} \quad \# \end{aligned}$$

$$\begin{aligned} 4ii. \quad & P(4, 0) \quad Q(0, 2) \\ & \text{When } y=0 \\ & 0 = \frac{1}{4}x - 1 \\ & \frac{1}{4}x = 1 \\ & x = 4 \\ & P(4, 0) \end{aligned}$$

$$\begin{aligned} & y = \frac{1}{2}x + c \quad A(a, 0) \\ & \text{when } y=0 \\ & 0 = \frac{1}{4}x - 2 \\ & \frac{1}{4}x = 2 \\ & x = 8 \\ & \therefore A = (8, 0) \end{aligned}$$

$$\begin{aligned} & \text{when } x=0 \\ & y = -1 \\ & Q = (0, -1) \\ & M = \left(\frac{0+4}{2}, \frac{0-1}{2} \right) \\ & = (2, -\frac{1}{2}) \quad \# \end{aligned}$$

$$\begin{aligned} & 0 = \frac{1}{2}\left(\frac{1}{2}\right) + c \\ & c = -\frac{1}{4} \\ & \therefore y = \frac{1}{2}x - \frac{1}{4} \\ & 4y = 2x - 1 \quad \# \end{aligned}$$