

FORM 2
CHAPTER 10

Summative Practice

Section A

1 zero gradient = horizontal line

Answer: C

2 The steepest straight line has the largest gradient value.

Answer: C

3 Gradient of $PQ = -\frac{4}{2} = -2$

Answer: A

$$4 \quad -\frac{(-4)}{x\text{-intercept}} = -\frac{2}{5}$$

$$x\text{-intercept} = \frac{5 \times 4}{(-2)} = -10$$

Answer: B

5 Undefined gradient = Vertical line

Answer: C

6 $m_{AB} = -\frac{1}{4}$; $m_{CD} = -2$; $m_{EF} = -4$; $m_{PQ} = 1$

Smallest gradient = Straight line AB

Answer: A

$$7 \quad \frac{-3-3}{2-0} = \frac{0-3}{h-0}$$

$$h = -3 \times \frac{2}{-6} = 1$$

Answer: B

$$8 \quad m = \frac{-5-2}{-2-9} = \frac{7}{11}$$

Answer: C

9 Answer: D

10 Gradient of OP = Gradient of MN = 0

y-coordinate of points M and N is the same. Therefore, $k = -6$

Answer: C

Section B

$$1 \text{ (a) (i) } m = \frac{0-(-3)}{-1-3} = -\frac{3}{4}$$

$$\text{(ii) } m = \frac{-8-(-2)}{1-5} = \frac{-6}{-4} = \frac{3}{2}$$

- (b) (i) undefined
(ii) positive

Section C

1 (a) Distance of $OB = 4$ units; Distance of $OA = 2(4) = 8$ units

(i) $A(-8, 0), B(0, 4)$

$$\text{Gradient, } m = \frac{4-0}{0-(-8)} = \frac{1}{2}$$

(ii) $T = \text{midpoint of } AB$

$$T = \left(\frac{-8+0}{2}, \frac{0+4}{2} \right) = (-4, 2)$$

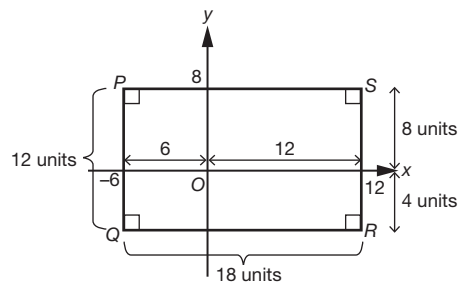
(iii) x-intercept of line $MT = 4$

$$\text{Gradient of line } MT = \frac{0-2}{4-(-4)} = -\frac{2}{8} = -\frac{1}{4}$$

$$m = -\frac{y\text{-intercept}}{x\text{-intercept}} = -\frac{y}{4} = -\frac{1}{4}$$

y-intercept = 1

(b) (i)



Coordinates of $P(-6, 8), R(12, -4)$

(ii) Gradient of $PS = 0$

Gradient of RS is undefined.

$Q = (-6, -4), S = (12, 8)$

$$\text{Gradient of } QS = \frac{-4-8}{-6-12} = \frac{-12}{-18} = \frac{2}{3}$$