**M1.**

(Gradient of *PQ* =) $\dfrac{-4}{7}$

*Allow 0.57 or better for $\dfrac{4}{7}$*

**B1**

$0 = \dfrac{-4}{7} \times 14 + K$

*(K =) 14 × their $\dfrac{4}{7}$ or –14 × their $\dfrac{-4}{7}$ (= 8)*

*8 marked at the y-intercept*

*ft non-integer gradient*

**M1**

$y = \dfrac{-4}{7}x + 8$

*ft non-integer gradient*

**A1ft**

$4x + 7y = 56$

*oe*

*ft their equation with a non-integer coefficient of $x$ and M1 awarded*

**A1ft**

**[4]**

**M2.**

(a)    Gradient $AC = \dfrac{4-0}{0-12}$ or $-\dfrac{1}{3}$

*oe*

**M1**

$y = -\dfrac{1}{3}x + 4$

*oe   e.g. $x + 3y = 4$*

*Must be an equation*

**A1**

(b)    Gradient $OB = 3$

    *ft Their gradient in (a) using $m1 \times m2 = -1$*

**B1ft**

Equation of $OB$: $y = 3x$

    *ft Their gradient OB*

**M1**

$$3x = -\frac{1}{3}x + 4$$

    *ft Their equations*

**M1**

$$x = \frac{6}{5} \text{ or } 1.2$$

    *oe ($x$ coordinate of midpoint of OB)*
    *ft From their linear equations*

**A1ft**

$$y = \frac{18}{5} \text{ or } 3.6$$

    *oe ($y$ coordinate of midpoint of OB)*

**A1**

$$\left(\frac{12}{5}, \frac{36}{5}\right) \text{ or } (2.4, 7.2)$$

    *oe*
    *ft Their $x$ and $y$ values for the midpoint*

**B1ft**

**[8]**