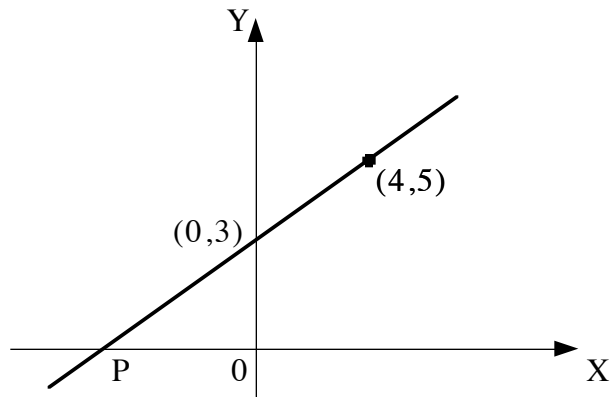


# HOME EXERCISE 11

Set out carefully all appropriate working.

1. In the graph shown, the line passes through the points (0,3) and (4,5).



- (a) Find the gradient of the line. (2)  
 (b) State the equation of the line. (2)  
 (c) **Hence** find the co-ordinates of P, the point where the line meets the X-axis. (2)

2. If  $a=-3$  ,  $b=5$  and  $c=-2$  , evaluate:  $a^2 - bc$  (3)

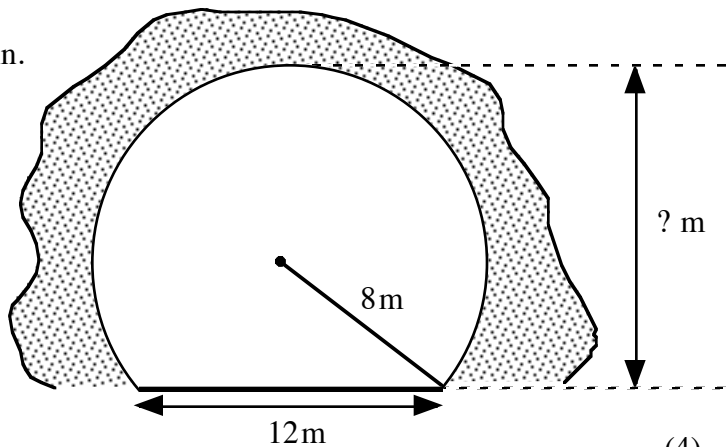
3.  $g(t) = \frac{12}{t-3}$  ,  $t \neq 3$  (a) find the image of 5 (1)  
 (b) find  $g(-1)$  (2)  
 (c) if  $g(c) = 2$  , find the value of c. (2)

4. Solve the inequality:  $11 + 2y > 3$  (2)

5. The diagram shows the cross-section of a circular tunnel through a mountain.

The radius of the tunnel is 8 metres

The road through the tunnel is represented in the diagram by the chord 12 metres wide.



Calculate the height of the tunnel.

(4)

**Total 20 marks**