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**2016 11 e** Find the points of intersection of  $y = -5 - 4x$  and  $y = 3 - 2x - x^2$ .

**3**

$$y = -5 - 4x \dots\dots \textcircled{1}$$

$$y = 3 - 2x - x^2 \dots\dots \textcircled{2}$$

Let  $\textcircled{1} = \textcircled{2}$ :

$$-5 - 4x = 3 - 2x - x^2$$

$$x^2 - 2x - 8 = 0$$

$$(x - 4)(x + 2) = 0$$

$$x = 4, -2$$

Subs in  $\textcircled{1}$  :

$$y(4) = -5 - 4(4)$$

$$= -21$$

$$y(-2) = -5 - 4(-2)$$

$$= 3$$

$$\therefore (4, -21) \text{ and } (-2, 3).$$

State Mean:  
**2.55**

\* These solutions have been provided by [projectmaths](#) and are not supplied or endorsed by BOSTES.

### BOSTES: Notes from the Marking Centre

This information is released by BOSTES in late Term 1 2017.