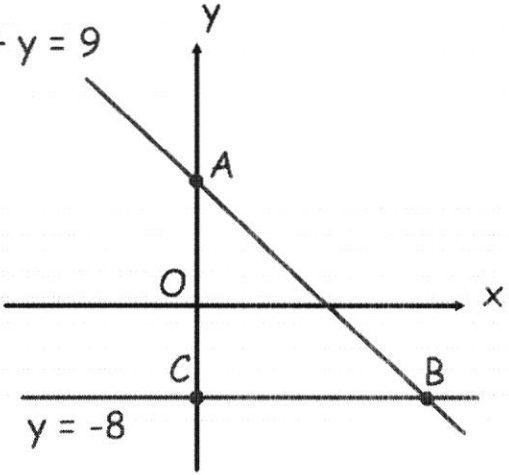
 Corbettmaths	
<b>20th May</b>	
Find the set of values of $x$ that satisfies both  $2x^2 - 7x - 22 < 8$  and  $5x - 7 > 7 - x$	$2x^2 - 7x - 30 < 0$ $(2x + 5)(x - 6) < 0$ $-\frac{5}{2} < x < 6$  $5x - 7 > 7 - x$ $6x > 14$ $x > \frac{7}{3}$  $\frac{7}{3} < x < 6$
$2x + y = 9$  	Calculate the area of triangle ABC.  $A(0, 9)$ $C(0, -8)$  At B $2x - 8 = 9$ $x = \frac{17}{2}$ $B(\frac{17}{2}, -8)$  $Area = \frac{1}{2} \times AC \times CB$ $= \frac{1}{2} \times 17 \times \frac{17}{2}$ $= \frac{289}{4}$
A ship leaves a port A and travels 12km on a bearing of $200^\circ$ to reach B. It then travels 20km due west to reach C.  Work out the bearing of A from C.	$AC^2 = 12^2 + 20^2 - 2 \times 12 \times 20 \times \cos 110^\circ$ $AC = 26.6 \text{ km}$ $\frac{\sin \theta}{12} = \frac{\sin 110^\circ}{AC}$ $\sin \theta = 0.4237$ $\theta = 25.1^\circ$ $Bearing = 064.9^\circ$
$y = \frac{8x^{11} + x^7}{4x^5}$  Work out the value of $\frac{d^2y}{dx^2}$ when $x = 2$	$y = 2x^6 + \frac{1}{4}x^2$ $\frac{dy}{dx} = 12x^5 + \frac{1}{2}x$ $\frac{d^2y}{dx^2} = 60x^4 + \frac{1}{2}$ $= 960\frac{1}{2}$ when $x = 2$
