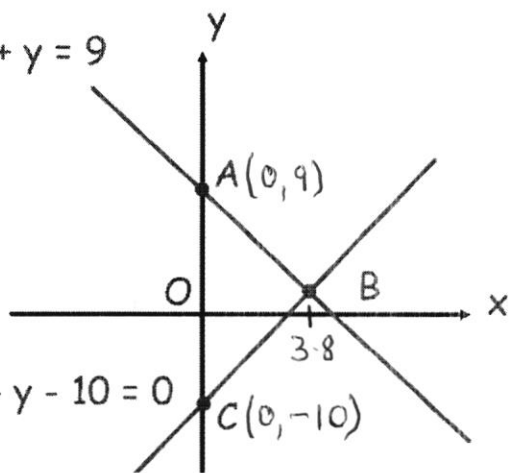


5th August	
<p>Solve $2x^2 = 9x + 40$</p> <p>Give your answers to 1 decimal place.</p>	<p>$2x^2 - 9x - 40 = 0$</p> <p>$x = \frac{9 \pm \sqrt{401}}{4}$</p> <p><u>$x = 7.3, -2.8$ (1 d.p.)</u></p>
<p>Find where the matrix $\begin{pmatrix} 5 & -2 \\ -1 & 3 \end{pmatrix}$ maps the point $(-2, 7)$</p>	<p>$\begin{pmatrix} 5 & -2 \\ -1 & 3 \end{pmatrix} \begin{pmatrix} -2 \\ 7 \end{pmatrix} = \begin{pmatrix} -24 \\ 23 \end{pmatrix}$</p> <p><u>$(-2, 7) \rightarrow (-24, 23)$</u></p>
<p>$2x + y = 9$</p>  <p>$3x - y - 10 = 0$</p> <p>A(0, 9)</p> <p>B(3.8, 0)</p> <p>C(0, -10)</p>	<p>Calculate the area of triangle ABC</p> <p>At A $y = 9$</p> <p>At C $-y - 10 = 0 \Rightarrow y = -10$</p> <p>At B $\begin{array}{r} 2x + y = 9 \\ 3x - y = 10 \\ \hline 5x = 19 \Rightarrow x = 3.8 \end{array}$</p> <p>Area = $\frac{1}{2} \times 19 \times 3.8$</p> <p><u>$= 36.1$</u></p>
<p>$f(x) = x^2 + 5$</p> <p>$g(x) = x - 8$</p> <p>Solve $fg(x) = gf(x)$</p>	<p>$fg(x) = f(x-8) = (x-8)^2 + 5$</p> <p>$= x^2 - 16x + 69$</p> <p>$gf(x) = g(x^2 + 5) = x^2 - 3$</p> <p>$x^2 - 16x + 69 = x^2 - 3$</p> <p>$72 = 16x$</p> <p><u>$x = \frac{9}{2}$</u></p>