

Name: _____

1. Express $\frac{3-\sqrt{5}}{1+\sqrt{5}}$ in the form $a+b\sqrt{5}$, where a and b are integers to be found	$-2+\sqrt{5}$
2. Evaluate $\int_1^4 (2x + \sqrt{x}) dx$	$\frac{59}{3}$
3. $f(x) = x^3 - 4x^2 + x + 6$ (a) Show that $(x - 2)$ is a factor of $f(x)$ (b) Solve $f(x) = 0$	(a) $f(2) = 2^3 - 4(2)^2 + 2 + 6 = 8 - 16 + 2 + 6 = 16 - 16 = 0$, hence $(x - 2)$ is a factor of $f(x)$ (b) $x = -1, 2$ or 3
4. The line l_1 passes through the points $A(3, 2)$ and $B(1, 5)$. The line l_2 is perpendicular to l_1 and passes through the point $(3, 6)$. (a) Find the equation of l_2 in the form $y = mx + c$ (b) Find the coordinates of the points where l_2 crosses the coordinate axes.	(a) $y = \frac{2}{3}x + 4$ (b) Crosses the y axis at $(0, 4)$ and crosses the x axis at $(-6, 0)$