

200 Exam Questions & Answers

1	<p>Show that $(x - 1)$ is a factor of $f(x) = 2x^3 + x^2 - 8x + 5$. Hence fully factorise $f(x)$ fully.</p>	
2	<p>Express $x^2 + 8x + 3$ in the form $(x + p)^2 + q$ and state the coordinates of the turning point of the parabola.</p>	
3	<p>Evaluate: $\log_5 2 + \log_5 50 - \log_5 4$</p>	
4	<p>What is the solution of the equation $2\sin x - \sqrt{3} = 0$ where $\frac{\pi}{2} \leq x \leq \pi$?</p>	
5	<p>Given that $0 \leq a \leq \frac{\pi}{2}$ and $\sin a = \frac{3}{5}$, find an expression for $\sin(x + a)$.</p>	
6	<p>If $y = 4x^3 + 5x^2 - 3x + 2$, find $\frac{dy}{dx}$.</p>	
7	<p>Find the coordinates of the turning points of the curve with equation $y = x^3 - 3x^2 - 9x + 12$ and determine their nature.</p>	
8	<p>Find $\int (2x^{-4} + \cos 5x) dx$.</p>	
9	<p>$\frac{dy}{dx} = 8x - 3$. If $y = 7$ when $x = 2$, find an equation for y.</p>	
10	<p>The expression $\sqrt{3}\sin x^\circ - \cos x^\circ$ can be written in the form $k\sin(x - a)^\circ$, where $k > 0$ and $0 \leq a < 360$. Calculate the values of k and a.</p>	