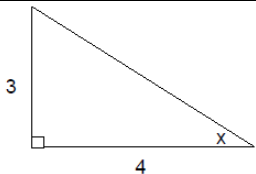


200 Exam Questions & Answers

161 Show that $(x + 2)$ is a factor of $f(x) = x^3 - 2x^2 - 4x + 8$ and hence fully factorise $f(x)$.	
162 Calculate the discriminant of the quadratic equation $2x^2 + 4x + 5 = 0$	
163 Solve the equation $\log_4(5 - x) - \log_4(3 - x) = 2$, $x < 3$.	
164 Find all the values of x in the interval $0 \leq x \leq 2\pi$ for which $\tan^2(x) = 3$.	
165 Show that the exact value of $\cos 2x$ is $\frac{7}{25}$.	
166 If $y = 3\cos^4 x$, find $\frac{dy}{dx}$.	
167 A curve has equation $y = x^3 - 3x^2 - 9x + 12$. Find the coordinates of the stationary points of this curve and determine their nature.	
168 Find $\int \frac{4x^3 - 1}{x^2} dx, x \neq 0$.	
169 Find the value of $\int_0^2 \sin(4x + 1) dx$.	
170 A curve has equation $y = 7\sin x - 24\cos x$. Express $7\sin x - 24\cos x$ in the form $k\sin(x - a)$ where $k > 0$ and $0 \leq a \leq \frac{\pi}{2}$.	