200 Exam Questions & Answers

21 Show that $(x-1)$ is a factor of x^3-3x+2. Hence or otherwise factorise x^3-3x+2 fully.	
22 $2x^2+4x+7$ is expressed in the form $2(x+p)^2+q$. What is the value of q.	
23 If $log_4 12 - log_4 x = log_4 6$, what is the value of x?	
24 Solve $2cosx = \sqrt{3}$ for x, where $0 \leq x < 2\pi$.	
25 If the exact value of $cosx$ is $\frac{1}{\sqrt{5}}$, find the exact value of $cos2x$.	
26 Given that $f(x) = (4-3x^2)^{\frac{-1}{2}}$ on a suitable domain, find $f'(x)$.	
27 Find the coordinates of the stationary points on the curve $f(x) = x^3 - 3x + 2$ and determine their nature.	
28 Find $\int \left(4x^{\frac{1}{2}} + x^{-3}\right) dx$, where $x > 0$.	
29 The graph of $y = f(x)$ passes through the point $\left(\frac{\pi}{9}, 1\right)$. If $f'(x) = \sin(3x)$ express *y* in terms of x.	
30 Write $sinx - cosx$ in the form $ksin(x-a)$ stating the values of *k* and *a* where $k > 0$ and $0 \leq a \leq 2\pi$.	