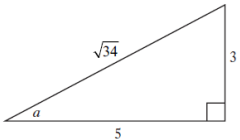


200 Exam Questions & Answers

<p>181 Show that $(3x + 1)$ is a factor of $g(x) = 3x^3 + 4x^2 - 5x - 2$. Hence fully factorise $g(x)$.</p>	
<p>182 Solve $1 - 2x - 3x^2 > 0$, where x is a real number.</p>	
<p>183 Solve the equation $\log_2(x + 1) - 2\log_2 3 = 3$.</p>	
<p>184 Solve $2\tan 3x + 2 = 0$ for $0 \leq x \leq 360$.</p>	
<p>185 A right-angled triangle has sides and angles as shown in the diagram. What is the value of $\sin 2a$?</p>	
<p>186 Given that $y = \sin(x^2 - 3)$, find $\frac{dy}{dx}$.</p>	
<p>187 A curve has equation $y = 3x^2 - x^3$. Find the coordinates of the stationary points on this curve and determine their nature.</p>	
<p>188 Find $\int (2x + 9)^5 dx$</p>	
<p>189 Find $\int_0^2 \sqrt{4x + 1} dx$.</p>	
<p>190 Express $f(x) = \sqrt{3}\cos x + \sin x$ in the form $k\sin(x + a)$, where $k > 0$ and $0 < a < \frac{\pi}{2}$.</p>	