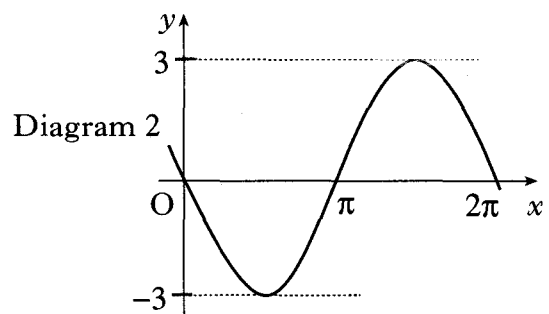
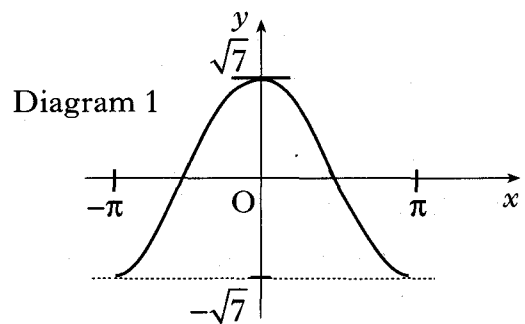
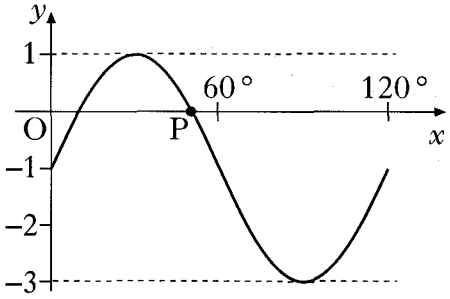
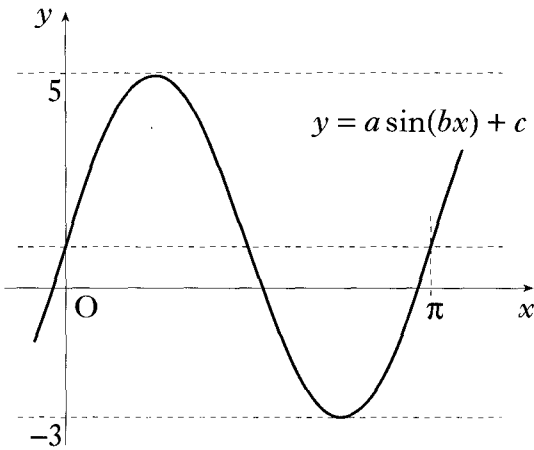
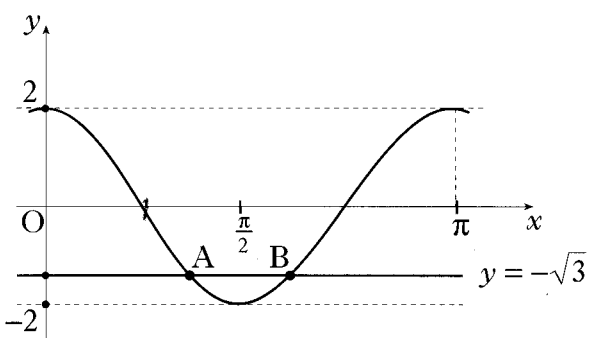
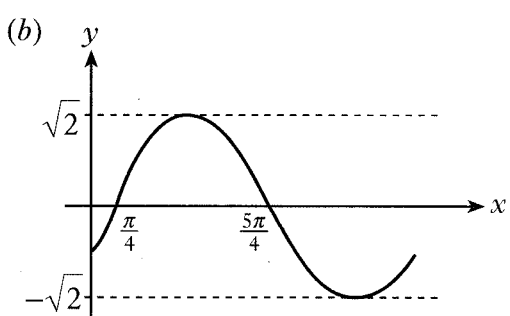
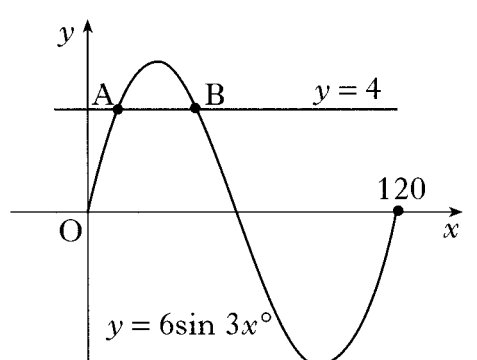


2008 P1	<p>6. What is the solution of the equation <math>2 \sin x - \sqrt{3} = 0</math> where <math>\frac{\pi}{2} \leq x \leq \pi</math>?</p> <p>A <math>\frac{\pi}{6}</math></p> <p>B <math>\frac{2\pi}{3}</math></p> <p>C <math>\frac{3\pi}{4}</math></p> <p>D <math>\frac{5\pi}{6}</math></p>	2
Ans	B	
2008 P2	<p>3. (a) (i) Diagram 1 shows part of the graph of <math>y = f(x)</math>, where <math>f(x) = p \cos x</math>.</p> <p>Write down the value of <math>p</math>.</p> <p>(ii) Diagram 2 shows part of the graph of <math>y = g(x)</math>, where <math>g(x) = q \sin x</math>.</p> <p>Write down the value of <math>q</math>.</p>	2
Ans	$p = \sqrt{7}, q = -3$	



2007 P2	<p>4. The diagram shows part of the graph of a function whose equation is of the form <math>y = a \sin(bx^\circ) + c</math>.</p> <p>(a) Write down the values of <math>a</math>, <math>b</math> and <math>c</math>.</p> <p>(b) Determine the exact value of the <math>x</math>-coordinate of P, the point where the graph intersects the <math>x</math>-axis as shown in the diagram.</p>		3 3	
Ans	<p>(a) <math>a = 2, b = 3, c = -1</math></p> <p>(b) <math>x_P = 50^\circ</math></p>			
2004 P1	<p>3. Find all the values of <math>x</math> in the interval <math>0 \leq x \leq 2\pi</math> for which <math>\tan^2(x) = 3</math>.</p>			4
Ans	<p><math>x = \frac{\pi}{3}</math> and <math>x = \frac{4\pi}{3}</math></p> <p><math>x = \frac{2\pi}{3}</math> and <math>x = \frac{5\pi}{3}</math></p>			
2003 P2	<p>2. The diagram shows a sketch of part of the graph of a trigonometric function whose equation is of the form <math>y = a \sin(bx) + c</math>.</p> <p>Determine the values of <math>a</math>, <math>b</math> and <math>c</math>.</p>		3	
Ans	<p><math>a = 4, b = 2, c = 1</math></p>			
2002W P1	<p>4. (a) Write down the exact values of <math>\sin\left(\frac{\pi}{3}\right)</math> and <math>\cos\left(\frac{\pi}{3}\right)</math>.</p> <p>(b) If <math>\tan x = 4 \sin\left(\frac{\pi}{3}\right) \cos\left(\frac{\pi}{3}\right)</math>, find the exact values of <math>x</math> for <math>0 \leq x \leq 2\pi</math>.</p>			1 2
Ans	<p>(a) <math>\frac{\sqrt{3}}{2}, \frac{1}{2}</math></p> <p>(b) <math>\frac{\pi}{3}, \frac{4\pi}{3}</math></p>			

2002 P1	<p>8. The diagram shows the graph of a cosine function from 0 to <math>\pi</math>.</p> <p>(a) State the equation of the graph.</p> <p>(b) The line with equation <math>y = -\sqrt{3}</math> intersects this graph at points A and B.</p> <p>Find the coordinates of B.</p>		1 3
Ans	<p>(a) <math>y = 2\cos(2x)</math></p> <p>(b) <math>B\left(\frac{7\pi}{12}, -\sqrt{3}\right)</math></p>		
2002 P1	<p>9. (a) Write <math>\sin(x) - \cos(x)</math> in the form <math>k\sin(x - a)</math> stating the values of <math>k</math> and <math>a</math> where <math>k &gt; 0</math> and <math>0 \leq a \leq 2\pi</math>.</p> <p>(b) Sketch the graph of <math>y = \sin(x) - \cos(x)</math> for <math>0 \leq x \leq 2\pi</math>, showing clearly the graph's maximum and minimum values and where it cuts the <math>x</math>-axis and the <math>y</math>-axis.</p>		4 3
Ans	<p>(a) <math>\sqrt{2}\sin\left(x - \frac{\pi}{4}\right)</math></p> <p>(b)</p> 		
Specimen 2 P2	<p>3. The diagram shows part of the graph of <math>y = 6\sin 3x</math> and the line with equation <math>y = 4</math>.</p> <p>Find the <math>x</math>-coordinates of A and B.</p>		3
Ans	<p><math>6\sin 3x = 4</math>  <math>3x = 41.8, 138.2, (401.8)</math>  <math>x = 13.9, 46.1, (133.6)</math>  <math>x_A = 13.9, x_B = 46.1</math></p>		

Specimen 1  
PI

8. Sketch the graph of  $y = 2\sin(x - 30)^\circ$  for  $0 \leq x < 360$ .

4

Ans

