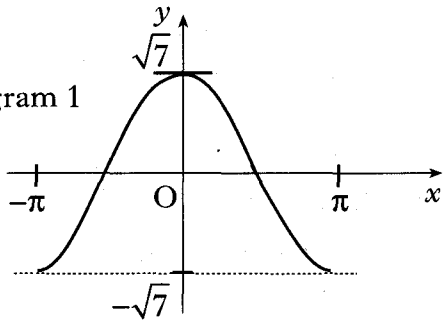
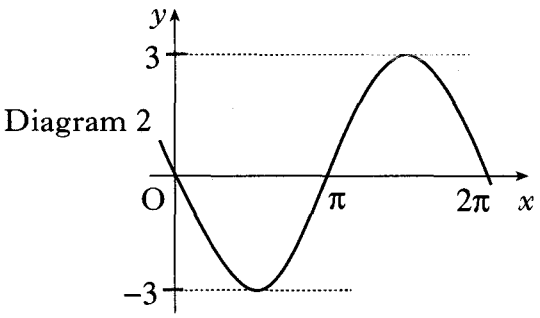
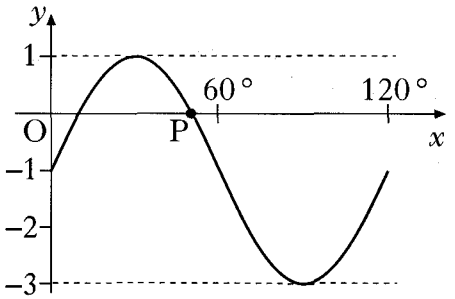
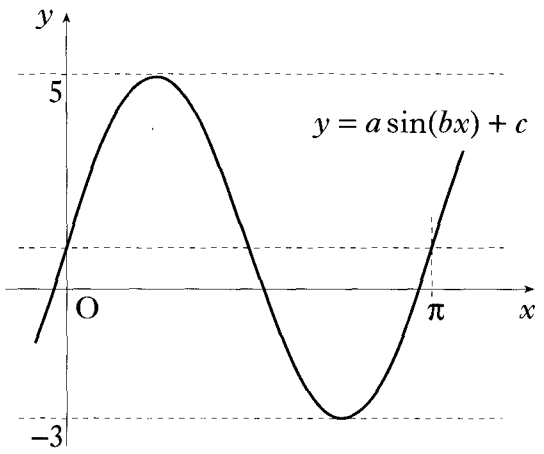
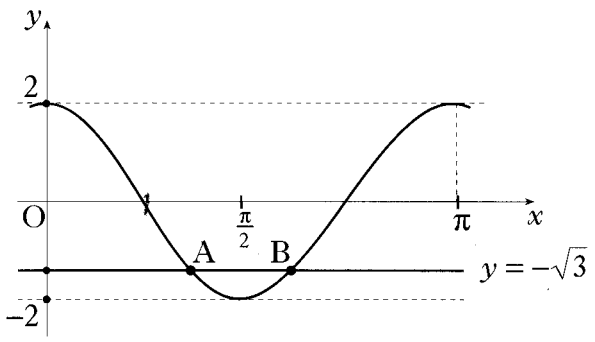
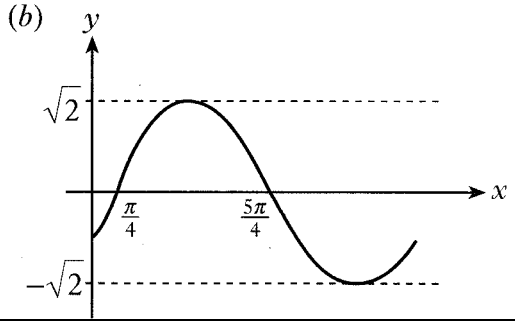
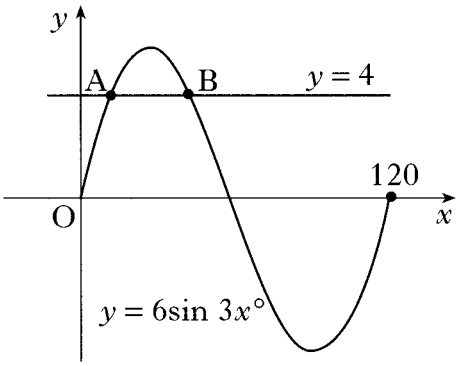
2008 P1	**6.** What is the solution of the equation $2\sin x - \sqrt{3} = 0$ where $\frac{\pi}{2} \le x \le \pi$? A $\frac{\pi}{6}$ B $\frac{2\pi}{3}$ C $\frac{3\pi}{4}$ D $\frac{5\pi}{6}$	2
Ans	B	
2008 P2	**3.** (*a*) (i) Diagram 1 shows part of the graph of $y = f(x)$, where $f(x) = p\cos x$. Write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

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

2002 P1	**8.** The diagram shows the graph of a cosine function from 0 to π. (*a*) State the equation of the graph. (*b*) The line with equation $y = -\sqrt{3}$ intersects this graph at points A and B. Find the coordinates of B. 	1 3
Ans	(*a*) $y = 2\cos(2x)$ (*b*) $B\left(\frac{7\pi}{12}, -\sqrt{3}\right)$	
2002 P1	**9.** (*a*) Write $\sin(x) - \cos(x)$ in the form $k\sin(x - a)$ stating the values of k and a where $k > 0$ and $0 \le a \le 2\pi$. (*b*) Sketch the graph of $y = \sin(x) - \cos(x)$ for $0 \le x \le 2\pi$, showing clearly the graph's maximum and minimum values and where it cuts the x-axis and the y-axis.	4 3
Ans	(*a*) $\sqrt{2}\sin(x - \frac{\pi}{4})$ (*b*) 	
Specimen 2 P2	**3.** The diagram shows part of the graph of $y = 6\sin 3x$ and the line with equation $y = 4$. Find the x-coordinates of A and B. 	3
Ans	$6\sin 3x = 4$ $3x = 41{\cdot}8, 138{\cdot}2, (401{\cdot}8)$ $x = 13{\cdot}9, 46{\cdot}1, (133{\cdot}6)$ $x_A = 13{\cdot}9$, $x_B = 46{\cdot}1$	

Specimen 1 P1	**8.** Sketch the graph of $y = 2\sin(x - 30)°$ for $0 \leq x < 360$.	4
Ans