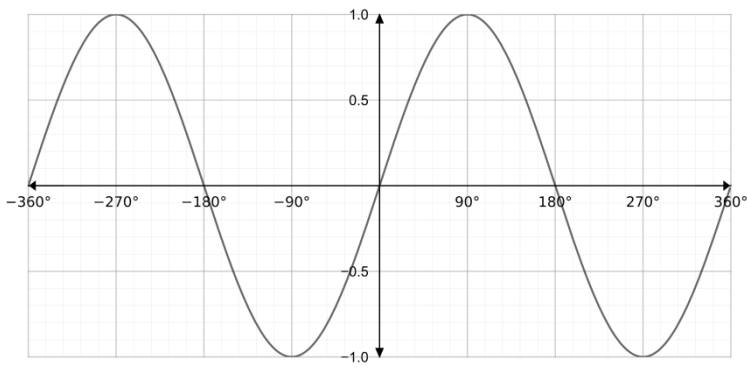
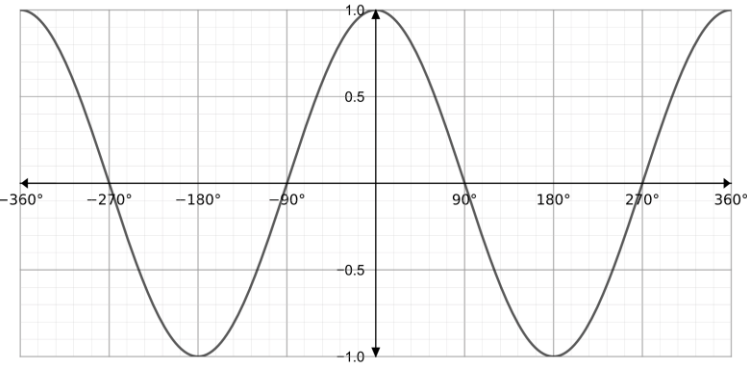
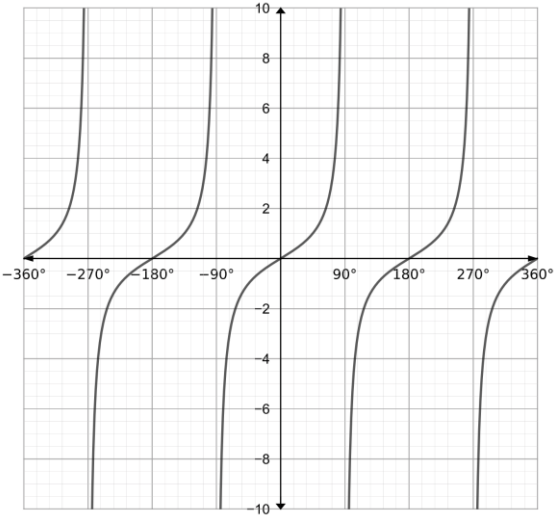
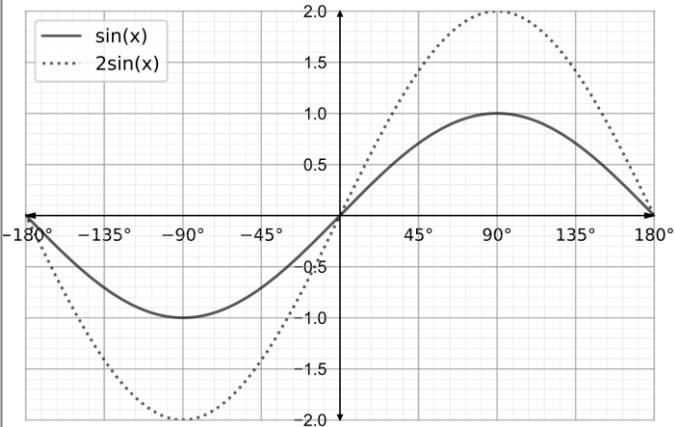
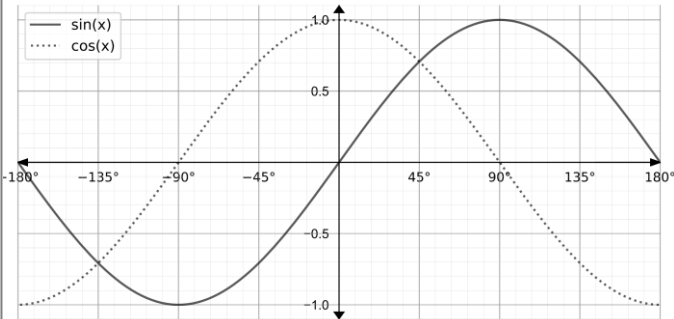


Sin, Cos and Tan Mark Scheme

1		<p>[1] Correct sinusoidal shape</p> <p>[1] correct values plotted</p>
2		<p>[1] Correct sinusoidal shape</p> <p>[1] correct values plotted</p>
3		<p>[1] correct shape</p> <p>[1] correct asymptotes</p>
4(a)	$\cos(x) = 0$ $x = -90^\circ \text{ or } x = 90^\circ$	<p>[1] Both values of x</p>
4(b)	$\cos(x) = \frac{1}{2}$ $x = 60^\circ \pm 5^\circ \text{ or } x = -60^\circ \pm 5^\circ$	<p>[1] Both values of x</p>
4(c)	<p>The cos function only has a range of 1.</p>	<p>[1] Correct reasoning</p>

Turn over ►

5(a)	Sine	[1]
5(b)	Cosine	[1]
5(c)	Tangent	[1]
5(d)	None of the above	[1]
5(e)	Sine	[1]
5(f)	None of the above	[1]
6	 <p>The graph shows two sine waves on a coordinate plane. The x-axis is labeled from -180° to 180° in 45° increments. The y-axis is labeled from -2.0 to 2.0 in 0.5 increments. A solid line represents $y = \sin(x)$ with an amplitude of 1. A dotted line represents $y = 2\sin(x)$ with an amplitude of 2. Both curves pass through the origin (0,0) and have x-intercepts at -180°, -90°, 0°, 90°, and 180°.</p>	<p>[1] $y = \sin(x)$</p> <p>[1] $y = 2\sin(x)$</p> <p>[1] Both correctly plotted and labelled</p>
7	 <p>The graph shows two trigonometric functions on a coordinate plane. The x-axis is labeled from -180° to 180° in 45° increments. The y-axis is labeled from -1.0 to 1.0 in 0.5 increments. A solid line represents $y = \sin(x)$ and a dotted line represents $y = \cos(x)$. The sine curve has x-intercepts at -180°, -90°, 0°, 90°, and 180°. The cosine curve has x-intercepts at -135°, -45°, 45°, and 135°. The two curves intersect at $x = -135^\circ$ and $x = 45^\circ$.</p>	<p>[1] both curves correctly plotted</p> <p>[1] intersection points identified as solution as to the equation</p>
	$x = -135^\circ \pm 5^\circ \text{ or } x = 45^\circ \pm 5^\circ$	[1] Correct intersection points from graph

END