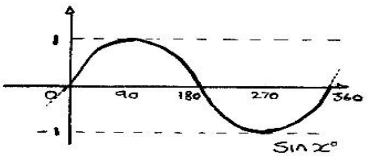
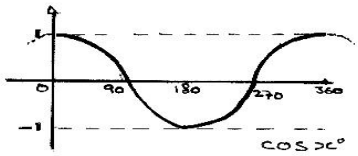
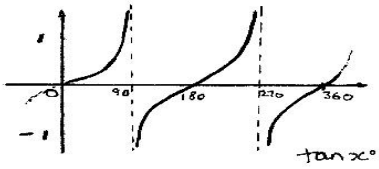
Mathematics Revision Exercises

Graphs of Trigonometric Functions







1. The PERIOD of the sine graph is 360° (or 2π). Write down the period of the cosine and tangent graphs.

2. Copy and complete this table for $y=\sin 2x°$.

$x°$	0	15	30	45	60	75	90	105	120	135
$\sin 2x°$			0·866		0·866					0·707

Use the table to help you draw the graph of $y=\sin 2x°$ for $0° \leq x \leq 360°$. Clearly show where the graph cuts the x-axis.

3. Copy and complete the table below for $y=2\sin x°$.

$x°$	0	30	60	90	120	150	180	210
$2\sin x°$		1·0				1·73		

Use the table to help you draw a ROUGH graph of $y=2\sin x°$ for $0° \leq x \leq 360°$. Show where this graph cuts the x-axis.

4. Draw a rough sketch of $y=\cos 2x°$ for $0° \leq x \leq 360°$. Clearly show where this graph cuts the x-axis. What is the PERIOD of this graph?

5. Draw a rough sketch of $y=3\cos 2x°$ for the same interval as before and show where the graph cuts the x-axis. State the MAXIMUM and MINIMUM values of the graph $y=3\cos 2x°$.

6. Draw a rough sketch of $y=\tan 3x°$ for $0° \leq x \leq 180°$. What is the PERIOD of this graph?

7. What is the MAXIMUM value of each of the following?

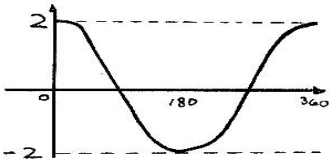
a) $\sin x°$ b) $2\cos 2x°$ c) $\sin 3x°$ d) $3+\cos 2x°$ e) $3-\cos 2x°$

8. What is the MINIMUM value of each of the following?

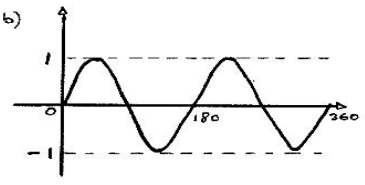
a) $4\sin x°$ b) $4\sin 2x°$ c) $a\cos(bx°)$ d) $1-3\cos x$ e) $1+3\cos x°$

9. Write down the most probable equation for each of the following graphs.

a)



b)



c)