Trigonometric Functions

Radian Measure

$$360^\circ = 2\pi \text{ radians}$$

Common Conversions

Degrees	*Radians*	*Degrees*	*Radians*	*Degrees*	*Radians*	*Degrees*	*Radians*
30	$\frac{\pi}{6}$	120	$\frac{2\pi}{3}$	210	$\frac{7\pi}{6}$	300	$\frac{5\pi}{3}$
45	$\frac{\pi}{4}$	135	$\frac{3\pi}{4}$	225	$\frac{5\pi}{4}$	315	$\frac{7\pi}{4}$
60	$\frac{\pi}{3}$	150	$\frac{5\pi}{6}$	240	$\frac{4\pi}{3}$	330	$\frac{11\pi}{6}$
90	$\frac{\pi}{2}$	180	π	270	$\frac{3\pi}{2}$	360	2π

e.g. Express in radians

$(i)\ 67^\circ = \frac{67\pi}{180}$ rads

$= 1.1693$ rads (to 4 dp)

$(ii)\ 36^\circ = \frac{36\pi}{180}$ rads

$= \frac{\pi}{5}$ rads

Convert to degrees

$(iii)\ \frac{\pi}{8}$ rads $= \frac{\pi}{8} \times \frac{180}{\pi}$

$= 22\frac{1}{2}^\circ$

$(iv)\ 111.1$ rads $= 111.1 \times \frac{180}{\pi}$

$= 6365.6^\circ$ (to 1 dp)

Exercise 14A; 1 to 6 ace etc, 8 aceg, 9 ace, 10, 11, 16 ace, 19