

Review

Terms that we used when dealing with Trig:

- Angles in standard position
- Terminal arm
- Special triangles
- Co-terminal angles
- Period
- Amplitude

We also look at transformations:

for example: $y = a \cdot \sin(k(x - d)) + c$

Unit Circle

Radius = 1

Special Triangles

Period::One Cycle Amplitude::Distance from axis to max

$$\theta = \frac{a}{r} = \frac{r}{r} = 1$$

How many degrees are in 1 radian?

57.3°

We are often expressing angles as real numbers, without units, in terms of π

π radians = 180°

Convert each of the following to radians.

a) $30^\circ \left(\frac{\pi}{180^\circ} \right)$

$$= \frac{30\pi}{180}$$

$$= \frac{\pi}{6}$$

b) $40^\circ \left(\frac{\pi}{180^\circ} \right)$

=

Convert each radian measure to degrees

a) $\frac{3\pi}{4} \left(\frac{180}{\pi} \right)$

$$= 135^\circ$$

b) 1.5 radians $\left(\frac{180}{\pi} \right)$

$$= 85.9^\circ$$

Transformations of Trigonometric Functions

Remember our rules for transforming ANY function:

$$(x, y) \rightarrow \left(\frac{x}{k} + d, ay + c\right)$$

Need to Know

The parameters in the equations $f(x) = a \cdot \sin(k(x - d)) + c$ and $f(x) = a \cdot \cos(k(x - d)) + c$ give useful information about transformations and characteristics of the function.