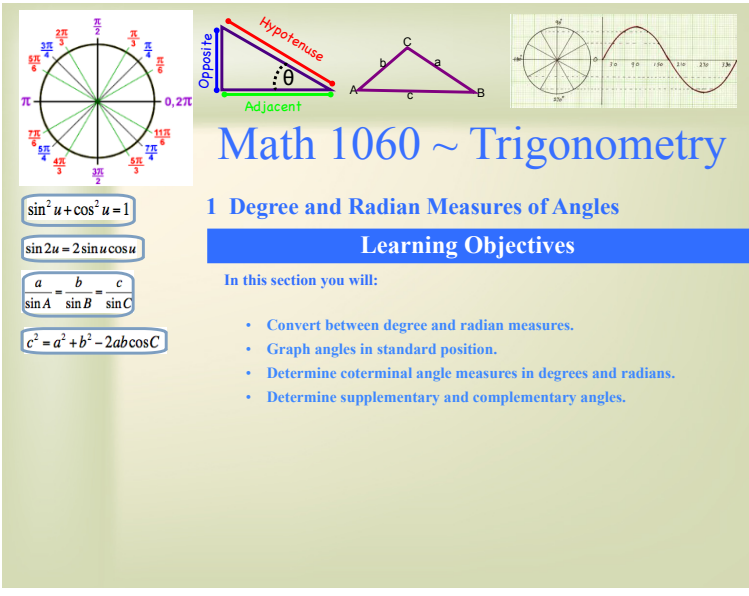
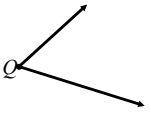


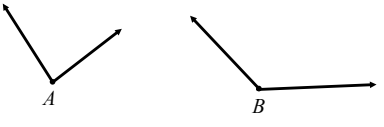
Vocabulary for angles

ray

angle

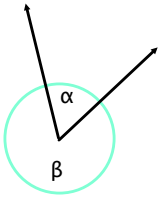


vertex

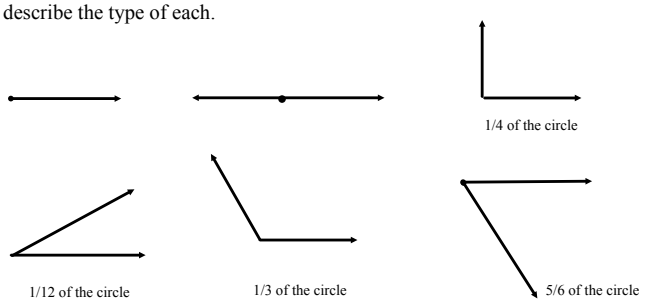


straight angle

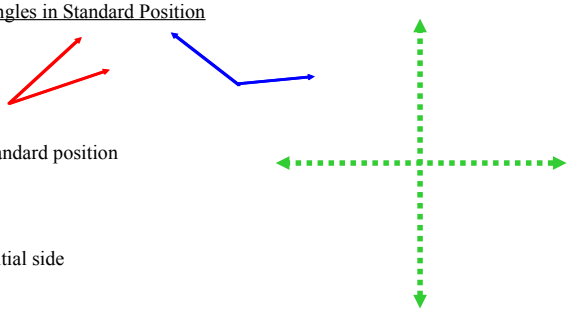
Degree Measure of Angles and Types of Angles



Ex 1: State the measure of each of these angles in degrees and describe the type of each.



Angles in Standard Position



standard position

initial side

terminal side

positive angle

negative angle

coterminal angles

Ex 2: State a coterminal angle between 0º and 360º for each of these.

a) $\alpha = 432º$ b) $\beta = -25º$ c) $\gamma = 500º$ d) $\theta = -630º$

Radian Measure of an Angle

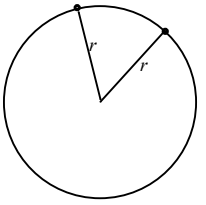
What is the number π ?

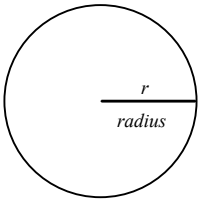
A radian is that portion of the circle equal in length to one radius of that circle.

r =

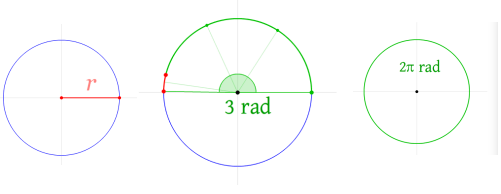
s =

$\boldsymbol{\theta}$ =





https://en.wikipedia.org/wiki/File:Circle_radians.gif



Ex 3: Graph each of these angles in standard position and classify them according to where their terminal side lies. State another coterminal angle between -2π and 2π for each angle.

a) $\alpha = \frac{\pi}{3}$ b) $\beta = -\frac{5\pi}{6}$ c) $\lambda = \frac{\pi}{2}$ d) $\theta = \frac{9\pi}{4}$

Converting Between Degrees and Radians

The conversion factor between degrees and radians is

2π *radians* = 360º.

Ex 4: Convert the following measures.

a) 225º to radians

b) $-\frac{5\pi}{6}$ radians to degrees

c) 2 radians to degrees

d) 1080º to radians

Supplementary and Complementary Angles in Degrees

Ex 5: Determine the complement and supplement (if they exist) for each of these angles.

angle complement supplement

a) $\alpha = 24^\circ$

b) $\beta = 90^\circ$

c) $\gamma = 130^\circ$

d) $\varphi = 180^\circ$

Supplementary and Complementary Angles in Radians

Ex 6: Determine the complement and supplement (if they exist) for each of these angles.

angle complement supplement

a) $\alpha = \frac{\pi}{3}$

b) $\beta = \frac{5\pi}{6}$

c) $\gamma = \frac{\pi}{4}$

d) $\varphi = \pi$