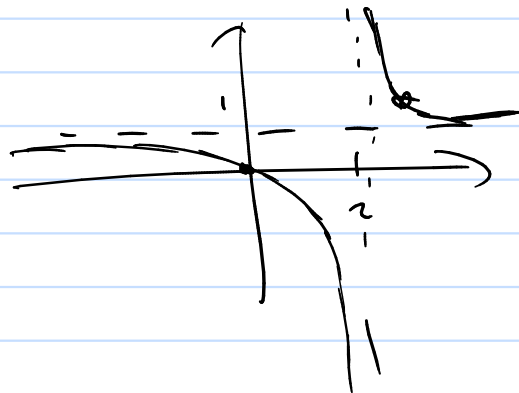


Q's

$$f(x) = \frac{x}{x-2}$$

$$g = \frac{x}{x-2}$$



Solve $(x,y) \rightarrow x = \frac{y}{y-2}$



$$y-2$$

$$x(y-2) = y$$

$$xy - 2x = y$$

$$xy - y = 2x$$

$$y(x-1) = 2x$$

$$y = \frac{2x}{x-1}$$

$$y =$$

12) Solve: $(\log_2(x))^2 < 2\log_2(x) + 3$

$$(\log_2(x))^2 - 2(\log_2(x)) - 3 < 0$$

$$w = \log_2(x)$$

$$w^2 - 2w - 3 < 0$$

$$(w-3)(w+1) < 0$$

$$(\log_2 x - 3)(\log_2 x + 1) < 0$$

$$\log_2 x = 3$$

$$\log_2 x = -1$$

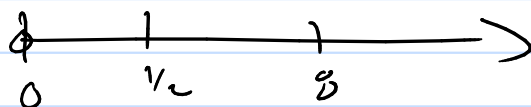
$$2^3 = x$$

$$2^{-1} = x$$

$$x = 8$$

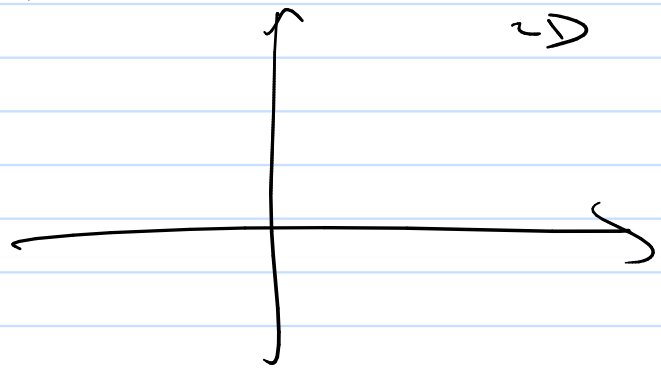
$$x = 1/2$$

Solve

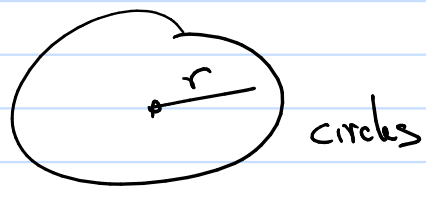
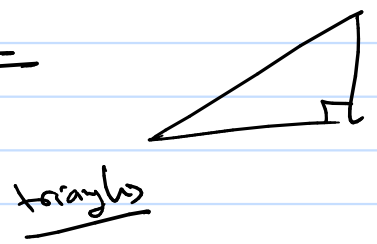


Calculus? & Operators & Functions!

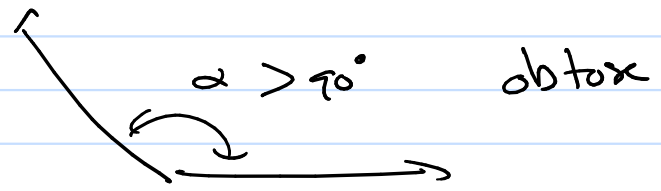
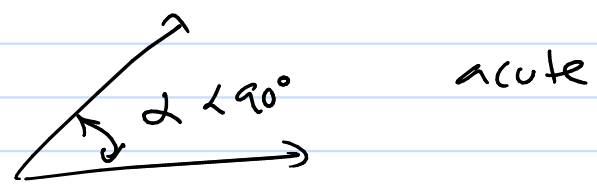
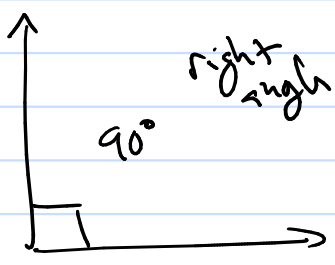
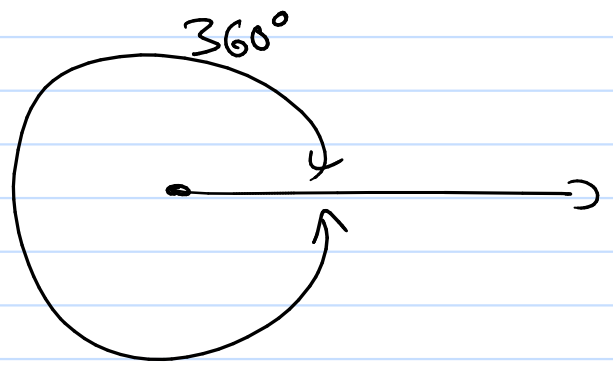
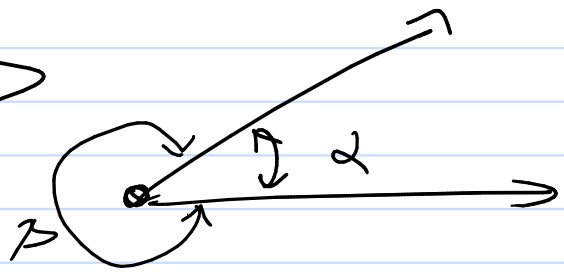
- Functions:
- polynomials
 - fractions
 - radicals
 - exponentials
 - logs



Geometry



Angle

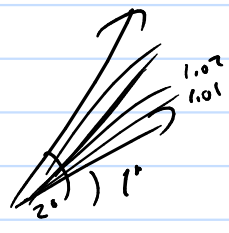


Measure:

degree

partial degrees?

- ① decimal degree (ex) 2.13°



(2) degree - minute - second

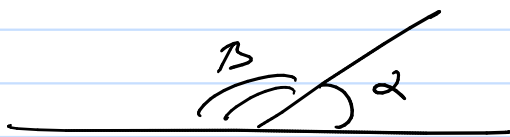
$$1^\circ = 60' \quad (\text{minutes})$$

$$1' = \frac{1}{60}^\circ$$

$$1' = 60'' \quad (\text{seconds})$$

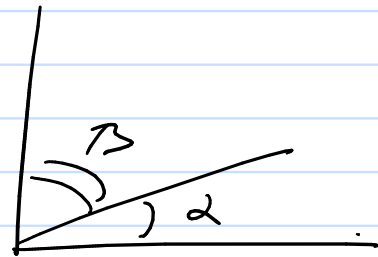
$$1'' = \frac{1}{60}' = \frac{1}{3600}^\circ$$

(ex) $42^\circ 7' 30'' = \left(42 + \frac{7}{60} + \frac{30}{3600}\right)^\circ = 42.125^\circ$



$$\alpha + \beta = 180^\circ$$

Supplementary angles

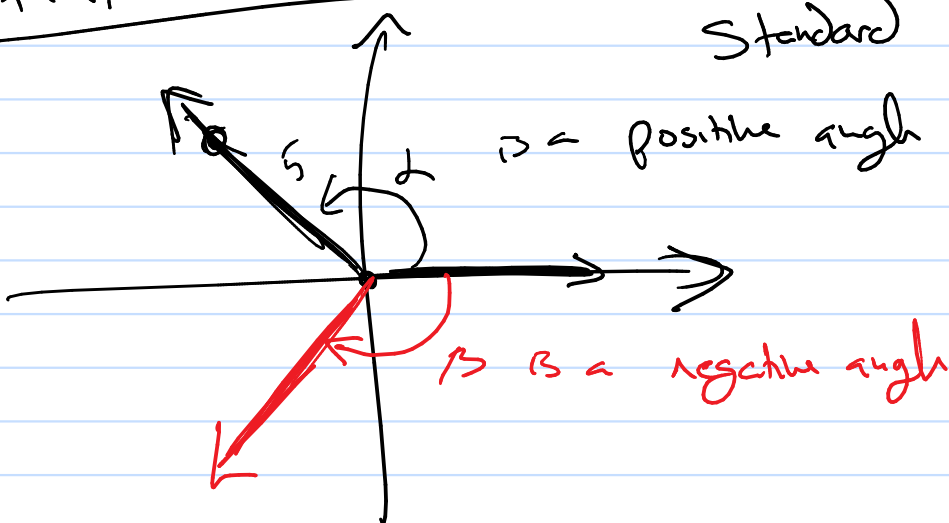


$$\alpha + \beta = 90^\circ$$

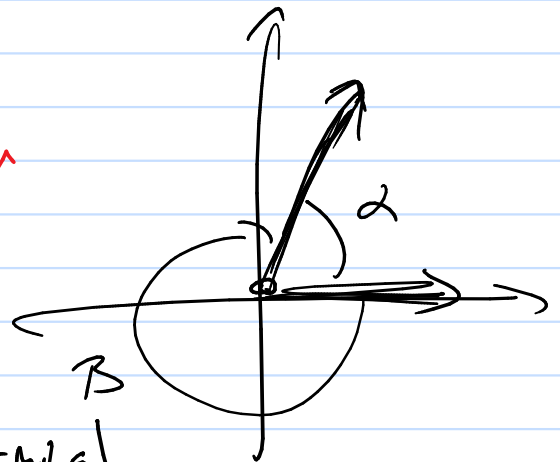
Complementary angles

Analytic Geometry

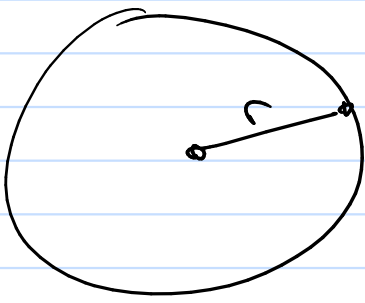
Standard position of an angle



beta is a negative angle



call α, β coterminal



$$\frac{C}{2r} = \pi \quad \sim \quad C = (2\pi)r$$



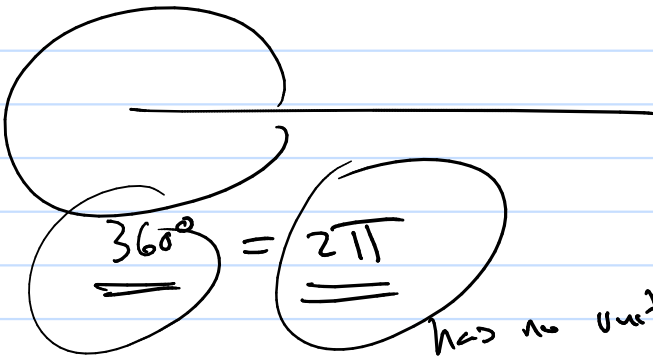
$$S = (\theta)r$$

Conversion:

$$3\cancel{\text{ft}} \left(\frac{12\cancel{\text{in}}}{1\cancel{\text{ft}}} \right) = 36\text{in}$$

$$16\cancel{\text{cm}} \left(\frac{1\text{m}}{100\cancel{\text{cm}}} \right) = 0.16\text{m}$$

↑



360° = 2π has no unit
degrees but we call it radians

∴ 360° = 2π give $\frac{360^\circ}{2\pi} = 1$ or $\frac{2\pi}{360^\circ} = 1$

$$\left(\frac{180^\circ}{\pi} = 1 \right)$$

$$\left(\frac{\pi}{180^\circ} = 1 \right)$$

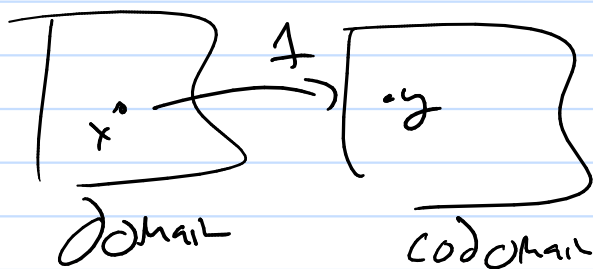
from degrees

$$60^\circ = 60^\circ \left(\frac{\pi}{180^\circ} \right) = \left[\frac{\pi}{3} \right]$$

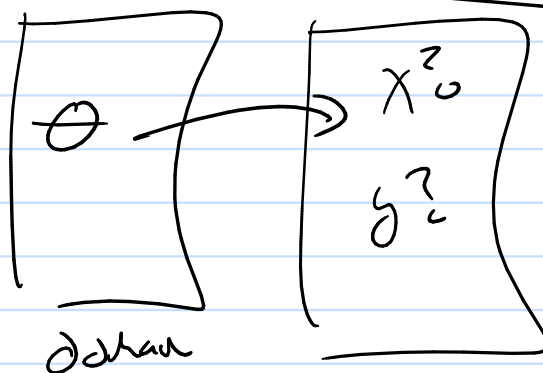
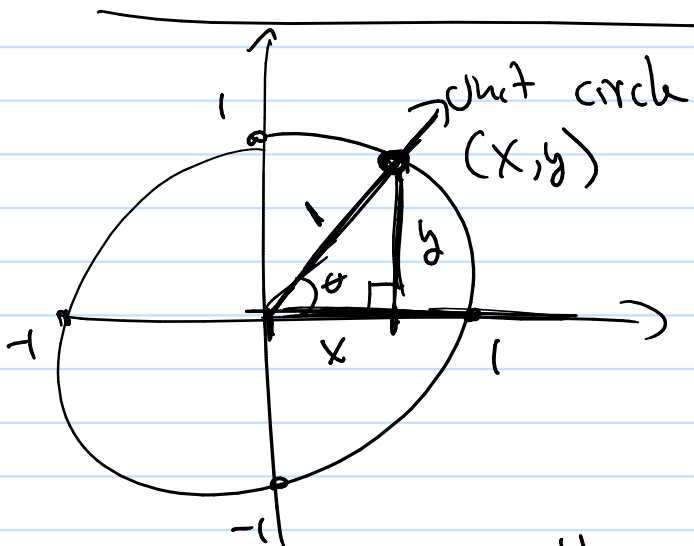
from radians

$$2 = 2 \left(\frac{180^\circ}{\pi} \right) = \left(\frac{360}{\pi} \right)^\circ$$

Functions:



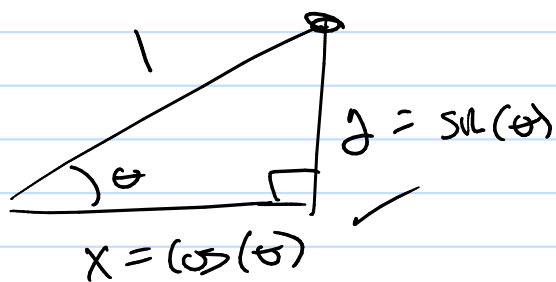
$$y = f(x)$$



call

$$y = \sin(\theta)$$

$$x = \cos(\theta)$$



$$x^2 + y^2 = 1$$

$$(\cos \theta)^2 + (\sin \theta)^2 = 1$$

$$\underline{\cos^2 \theta + \sin^2 \theta = 1}$$

θ	$x = \cos \theta$	$y = \sin \theta$
0° 0	1	0
90° $\pi/2$	0	1