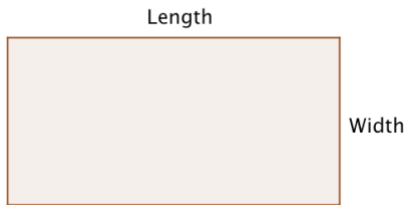


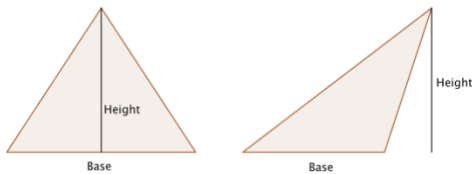
Rectangle Area:

$length \times width = Area$



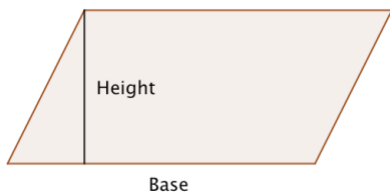
Triangle Area:

$Area = \frac{1}{2} Base \times Height$



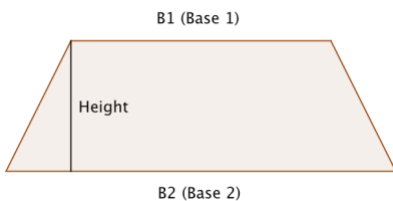
Parallelogram Area:

$base \times height = Area$

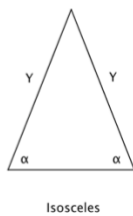
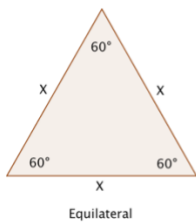


Trapezoid Area:

$\frac{(B1 + B2)}{2} height = Area$



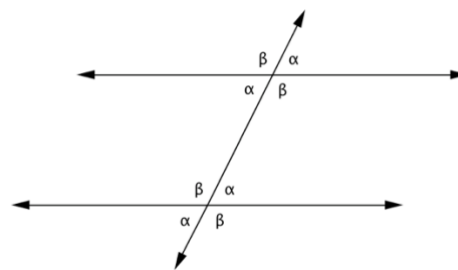
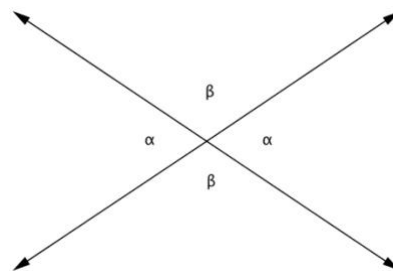
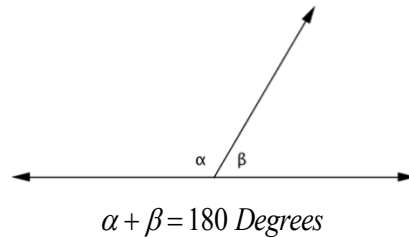
Triangle Types:



Degrees in a Polygon

$(Number\ of\ Sides - 2) \times 180 = Number\ of\ Degrees$

Angle Rules:



Circle Rules:

$\pi r^2 = Area$

$2\pi r = Circumference$

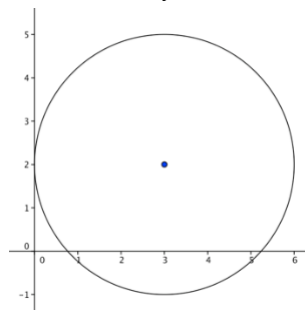
$(x - h)^2 + (y - k)^2 = r^2$

$h = X\ center$

$k = Y\ center$

$r = radius$

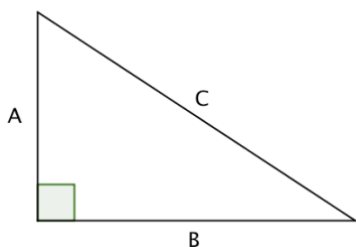
$(x - 3)^2 + (y - 2)^2 = 9$ would be



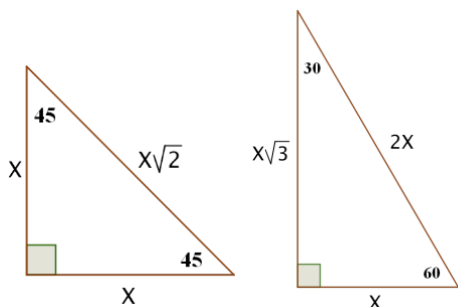
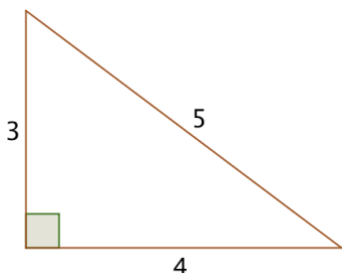
ACT MATH FORMULAS

Pythagorean Theorem:

$$A^2 + B^2 = C^2$$



Special Right Triangles



Cylinder Volume:

$$\pi r^2 h = \text{Volume}$$

Box Volume:

$$l \times w \times d = \text{Volume}$$

$$\text{DISTANCE} = \text{RATE} \times \text{TIME}$$

$$\frac{\text{PART}}{\text{WHOLE}} \times 100 = \text{PERCENTAGE}$$

$$y = mx + b \quad (x_1, y_1), (x_2, y_2)$$

$m = \text{Slope}$

$$b = y \text{ Intercept} \quad \text{Slope} = \frac{(y_2 - y_1)}{(x_2 - x_1)} = \frac{\text{rise}}{\text{run}}$$

Parallel lines = same slope

Perpendicular lines = negative reciprocal

POINTS: $(X_1, Y_1), (X_2, Y_2)$

$$\text{DISTANCE} = \sqrt{(X_2 - X_1)^2 + (Y_2 - Y_1)^2}$$

$$\text{MIDPOINT} = \left(\frac{X_1 + X_2}{2}, \frac{Y_1 + Y_2}{2} \right)$$

$$x^2 x^3 = x^{(2+3)} = x^5 \quad (x^2)^3 = x^{(2 \cdot 3)} = x^6$$

$$x^{-3} = \frac{1}{x^3} \quad x^{\frac{2}{3}} = \sqrt[3]{x^2}$$

$$\frac{\text{Radians}}{\pi} = \frac{\text{Degrees}}{180^\circ}$$

$\log_a x = b$ is the same as $a^b = x$

$$\log_a xy = \log_a x + \log_a y$$

$$\log_a \frac{x}{y} = \log_a x - \log_a y$$

$$\log_a x^y = y \cdot \log_a x$$

$$\text{Mean} = \frac{\text{Sum of Parts}}{\text{Number of Parts}}$$

Median = Middle

Mode = Most Frequent

$$\cos^2 x + \sin^2 x = 1 \quad \text{and} \quad \tan \theta = \frac{\sin \theta}{\cos \theta}$$

| SOH | CAH | TOA |
|---|---|---|
| $\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$ | $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$ | $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$ |
| Their respective inverses are . . . | | |
| $\csc \theta = \frac{1}{\sin \theta}$ | $\sec \theta = \frac{1}{\cos \theta}$ | $\cot \theta = \frac{1}{\tan \theta}$ |