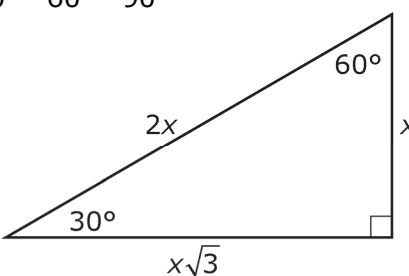
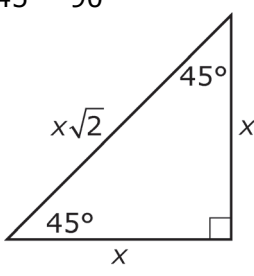


ACP Formulas
Geometry/Geometry PAP
2017-2018

Perimeter and Circumference			
Square:	$P = 4s$	Rectangle:	$P = 2\ell + 2w$
Circle:	$C = 2\pi r$ $C = \pi d$	Arc Length:	$\ell = \frac{x}{360^\circ} \cdot 2\pi r$
Area			
Square:	$A = s^2$	Triangle:	$A = \frac{1}{2}bh$
Rectangle:	$A = \ell w$ $A = bh$	Regular Polygon:	$A = \frac{1}{2}aP$
Parallelogram:	$A = bh$	Circle:	$A = \pi r^2$
Rhombus:	$A = \frac{1}{2}d_1d_2$ $A = bh$	Sector of a Circle:	$A = \frac{x}{360^\circ} \cdot \pi r^2$
Trapezoid:	$A = \frac{1}{2}(b_1 + b_2)h$		
Lateral Surface Area			
Prism:	$L = Ph$	Pyramid:	$L = \frac{1}{2}P\ell$
Cylinder:	$L = 2\pi rh$	Cone:	$L = \pi r\ell$
Total Surface Area			
Prism:	$S = Ph + 2B$	Pyramid:	$S = \frac{1}{2}P\ell + B$
Cylinder:	$S = 2\pi rh + 2\pi r^2$	Cone:	$S = \pi r\ell + \pi r^2$
Sphere:	$S = 4\pi r^2$	Area of a Sector:	$A = \frac{x}{360^\circ} \cdot \pi r^2$
Volume			
Rectangular Prism:	$V = \ell wh$	Cube:	$V = s^3$
Prism:	$V = Bh$	Pyramid:	$V = \frac{1}{3}Bh$
Cylinder:	$V = \pi r^2 h$ $V = Bh$	Cone:	$V = \frac{1}{3}Bh$ $V = \frac{1}{3}\pi r^2 h$
Sphere:	$V = \frac{4}{3}\pi r^3$		
Polygons			
Interior Angle Sum:	$S = 180(n - 2)$	Measure of Exterior Angle:	$\frac{360^\circ}{n}$

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Coordinate Geometry	
Midpoint:	$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
Distance:	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
Slope of a Line:	$m = \frac{y_2 - y_1}{x_2 - x_1}$
Slope-Intercept Form of a Line:	$y = mx + b$
Point-Slope Form of a Line:	$y - y_1 = m(x - x_1)$
Standard Form of a Line:	$Ax + By = C$
Equation of a Circle:	$(x - h)^2 + (y - k)^2 = r^2$
Trigonometry	
Pythagorean Theorem:	$a^2 + b^2 = c^2$
Trigonometric Ratios:	$\sin A = \frac{\text{opposite leg}}{\text{hypotenuse}}$ $\cos A = \frac{\text{adjacent leg}}{\text{hypotenuse}}$ $\tan A = \frac{\text{opposite leg}}{\text{adjacent leg}}$
Special Right Triangles:	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>30° - 60° - 90°</p>  </div> <div style="text-align: center;"> <p>45° - 45° - 90°</p>  </div> </div>
Law of Sines:	$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$
Law of Cosines:	$a^2 = b^2 + c^2 - 2bc \cos A$ $b^2 = a^2 + c^2 - 2ac \cos B$ $c^2 = a^2 + b^2 - 2ab \cos C$
Probability	
Permutations:	${}_n P_r = \frac{n!}{(n-r)!}$
Combinations:	${}_n C_r = \frac{n!}{(n-r)!r!}$