

## Grades 6–8 FCAT 2.0 Mathematics Reference Sheet

### Area

Rectangle	$A = bh$
Parallelogram	$A = bh$
Triangle	$A = \frac{1}{2}bh$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
Circle	$A = \pi r^2$

### KEY

$b$ = base	$A$ = area
$h$ = height	$B$ = area of base
$w$ = width	$C$ = circumference
$d$ = diameter	$V$ = volume
$r$ = radius	$P$ = perimeter of base
$\ell$ = slant height	$S.A.$ = surface area





Use 3.14 or  $\frac{22}{7}$  for  $\pi$ .

### Circumference

$C = \pi d$  or  $C = 2\pi r$

### Volume/Capacity

### Total Surface Area

	Rectangular Prism	$V = bwh$ or $V = Bh$	$S.A. = 2bh + 2bw + 2hw$ or $S.A. = Ph + 2B$
	Right Circular Cylinder	$V = \pi r^2h$ or $V = Bh$	$S.A. = 2\pi rh + 2\pi r^2$ or $S.A. = 2\pi rh + 2B$
	Right Square Pyramid	$V = \frac{1}{3}Bh$	$S.A. = \frac{1}{2}P\ell + B$
	Right Circular Cone	$V = \frac{1}{3}\pi r^2h$ or $V = \frac{1}{3}Bh$	$S.A. = \frac{1}{2}(2\pi r)\ell + B$

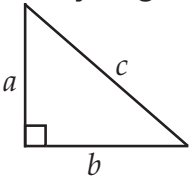
Sum of the measures of the interior angles of a polygon =  $180(n - 2)$

Measure of an interior angle of a regular polygon =  $\frac{180(n - 2)}{n}$

where:

$n$  represents the number of sides

## Grades 6–8 FCAT 2.0 Mathematics Reference Sheet

<p style="text-align: center;"><b>Pythagorean theorem</b></p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <math display="block">a^2 + b^2 = c^2</math> </div> </div>	<p style="text-align: center;"><b>Simple interest formula</b></p> $I = prt$ <p style="text-align: center;">where <math>p</math> = principal, <math>r</math> = rate, <math>t</math> = time</p>
<p style="text-align: center;"><b>Slope-intercept form of a linear equation</b></p> $y = mx + b$ <p style="text-align: center;">where <math>m</math> = slope and <math>b</math> = <math>y</math>-intercept</p>	<p style="text-align: center;"><b>Distance, rate, time formula</b></p> $d = rt$ <p style="text-align: center;">where <math>d</math> = distance, <math>r</math> = rate, <math>t</math> = time</p>
<p><b>Conversions within a System of Measure</b></p>	
1 yard = 3 feet 1 mile = 1,760 yards = 5,280 feet 1 acre = 43,560 square feet  1 cup = 8 fluid ounces 1 pint = 2 cups 1 quart = 2 pints 1 gallon = 4 quarts 1 pound = 16 ounces 1 ton = 2,000 pounds	1 meter = 100 centimeters = 1000 millimeters 1 kilometer = 1000 meters  1 liter = 1000 milliliters = 1000 cubic centimeters 1 gram = 1000 milligrams 1 kilogram = 1000 grams  1 minute = 60 seconds 1 hour = 60 minutes 1 year = 52 weeks = 365 days
<p><b>Conversions between Systems of Measure</b></p>	
<p>When converting from Customary to Metric, use these approximations.</p>	
1 inch = 2.54 centimeters 1 foot = 0.305 meter 1 mile = 1.61 kilometers	1 cup = 0.24 liter 1 gallon = 3.785 liters 1 ounce = 28.35 grams 1 pound = 0.454 kilogram
<p>When converting from Metric to Customary, use these approximations.</p>	
1 centimeter = 0.39 inch 1 meter = 3.28 feet 1 kilometer = 0.62 mile	1 liter = 4.23 cups 1 liter = 0.264 gallon 1 gram = 0.0352 ounce 1 kilogram = 2.204 pounds
<p><b>Temperature conversions between Celsius and Fahrenheit</b></p>	
$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1.8$ $^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$	