

## Grade 7 FAST Mathematics Reference Sheet

### Conversions within a System of Measure

#### Customary Conversions

1 foot = 12 inches  
 1 yard = 3 feet  
 1 mile = 5,280 feet  
 1 mile = 1,760 yards

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

#### Metric Conversions

1 meter = 100 centimeters  
 1 meter = 1000 millimeters  
 1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams  
 1 kilogram = 1000 grams

#### Time Conversions

1 minute = 60 seconds  
 1 hour = 60 minutes  
 1 day = 24 hours  
 1 week = 7 days  
 1 year = 365 days  
 1 year = 52 weeks

### Conversions between Systems of Measure

#### Customary to Metric Conversion Approximations

1 inch = 2.54 centimeters  
 1 foot = 0.305 meters  
 1 mile = 1.61 kilometers

1 cup = 0.24 liters  
 1 gallon = 3.785 liters  
 1 ounce = 28.35 grams  
 1 pound = 0.454 kilograms

#### Metric to Customary Conversion Approximations

1 centimeter = 0.39 inches  
 1 meter = 3.28 feet  
 1 kilometer = 0.62 miles

1 liter = 4.23 cups  
 1 liter = 0.264 gallons  
 1 gram = 0.0352 ounces  
 1 kilogram = 2.204 pounds

## Grade 7 FAST Mathematics Reference Sheet

### Formulas

Parallelogram  $A = bh$

Or Rhombus  $A = lw$

Trapezoid  $A = \frac{1}{2}h(b_1 + b_2)$

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

$A = \pi r^2$

Right Circular  
Cylinder  $V = Bh$  or  $V = \pi r^2 h$

Key	
$b$ = base	$A$ = area
$h$ = height	$C$ = circumference
$l$ = length	$V$ = volume
$w$ = width	
$r$ = radius	
$d$ = diameter	
$B$ = area of base	

### Simple Interest Formula

$$I = prt$$

where  $I$  = interest,  $p$  = principal,  
 $r$  = rate,  $t$  = time

### Percent Error Formula

$$\frac{|Estimate - Actual|}{Actual} \times 100$$

### Percent of Change

$$\frac{final\ value - initial\ value}{initial\ value} \times 100$$