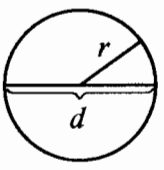
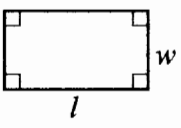
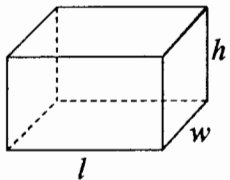
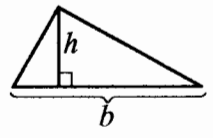
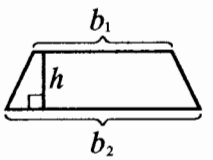
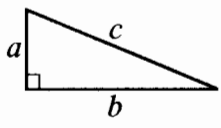
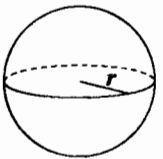
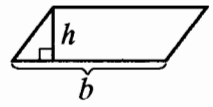
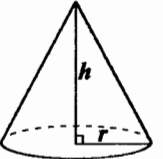
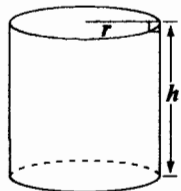


# MATHEMATICS REFERENCE SHEET

*Use the information below to answer questions on the Mathematics section of the March 2004 Grade Eight Proficiency Assessment (GEPA).*

$$\pi \approx 3.14 \text{ or } \frac{22}{7}$$

<p><b>Circle</b>                      Area = <math>\pi r^2</math>                      Circumference = <math>2\pi r</math>                                          = <math>\pi d</math></p> 	<p><b>Rectangle</b>                      Area = <math>lw</math>                      Perimeter = <math>2(l + w)</math></p> 
<p><b>Rectangular Prism</b></p> <p>Volume = <math>lwh</math>                      Surface Area = <math>2lw + 2wh + 2lh</math></p> 	<p><b>Triangle</b>                      Area = <math>\frac{1}{2}bh</math></p> 
<p><b>Trapezoid</b></p> <p>Area = <math>\frac{1}{2}h(b_1 + b_2)</math></p> 	<p><b>Pythagorean Formula</b>  <math>c^2 = a^2 + b^2</math></p> 
<p><b>Sphere</b></p> <p>Volume = <math>\frac{4}{3}\pi r^3</math>                      Surface Area = <math>4\pi r^2</math></p> 	<p><b>Parallelogram</b>                      Area = <math>bh</math></p> 
<p><b>Cone</b></p> <p>Volume = <math>\frac{1}{3}\pi r^2h</math></p> 	<p><b>Cylinder</b>                      Volume = <math>\pi r^2h</math></p> 

*Use the following equivalents for your calculations:*

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

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

16 ounces = 1 pound  
 2,000 pounds = 1 ton

1000 milligrams = 1 gram  
 100 centigrams = 1 gram  
 10 grams = 1 dekagram  
 1000 grams = 1 kilogram

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

1000 watt hours =  
 1 kilowatt hour

8 fluid ounces = 1 cup  
 2 cups = 1 pint  
 2 pints = 1 quart  
 4 quarts = 1 gallon

1000 milliliters (mL) =  
 1 liter (L)

The sum of the measures of the interior angles of a triangle =  $180^\circ$

The measure of a circle is  $360^\circ$  or  $2\pi$  radians

Distance = rate  $\times$  time    Interest = principal  $\times$  rate  $\times$  time

Simple Interest Formula:  $A = p + prt$     Compound Interest Formula:  $A = p(1 + r)^t$

$A$  = amount after  $t$  years;  $p$  = principal;  $r$  = annual interest rate;  $t$  = number of years;

The number of  $r$ -combinations of a set of size  $n$  is given by  $\frac{n!}{(n-r)!r!}$

The number of  $r$ -permutations of a set on  $n$  elements is given by  $\frac{n!}{(n-r)!}$

