



New Jersey Assessment of Skills and Knowledge

Grade 8

MATHEMATICS REFERENCE SHEET

Use the information below to answer questions on the
Mathematics section of the Grade Eight Assessment of Skills and Knowledge (NJ ASK 8)

The sum of the measures of the interior angles of any n -sided polygon = $(n - 2)180^\circ$

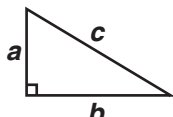
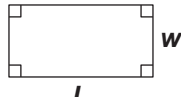
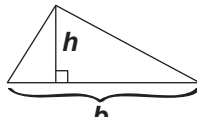
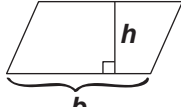
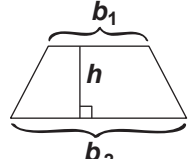
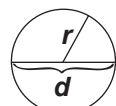
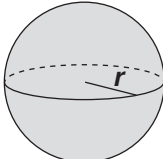
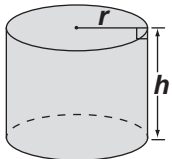
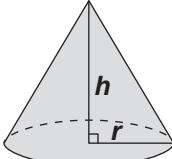
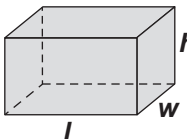
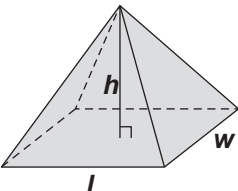
Distance = rate \times time

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 combinations of r objects you can choose from a set of n objects is $\frac{n!}{(n-r)!r!}$

The number of permutations of size r taken from n objects is $\frac{n!}{(n-r)!}$

Pythagorean Formula $c^2 = a^2 + b^2$ 	Use the following equivalents for your calculations: $\pi \approx 3.14$ or $\frac{22}{7}$	Rectangle Area = lw Perimeter = $2l + 2w$ 
Triangle Area = $\frac{1}{2}bh$ 	Parallelogram Area = bh 	Trapezoid Area = $\frac{1}{2}h(b_1 + b_2)$ 
Circle Area = πr^2 Circumference = $2\pi r$ = πd 	Sphere Volume = $\frac{4}{3}\pi r^3$ Surface Area = $4\pi r^2$ 	Cylinder Volume = $\pi r^2 h$ Surface Area = $2\pi rh + 2\pi r^2$ 
Cone Volume = $\frac{1}{3}\pi r^2 h$ 	Rectangular Prism Volume = lwh Surface Area = $2lw + 2wh + 2lh$ 	Pyramid Volume = $\frac{1}{3}lwh$ 

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USE THE FOLLOWING EQUIVALENTS FOR YOUR CALCULATIONS

60 seconds = 1 minute

60 minutes = 1 hour

24 hours = 1 day

7 days = 1 week

12 months = 1 year

365 days = 1 year

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

10 decimeters = 1 meter

1000 meters = 1 kilometer

8 fluid ounces = 1 cup

2 cups = 1 pint

2 pints = 1 quart

4 quarts = 1 gallon

1000 milliliters (mL) = 1 liter (L)

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

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