9th Grade Mathematics

Reference Sheet

9th Grade Mathematics Reference Sheet

Perimeter of rectangle

$$2l + 2w = P$$

w

l

Perimeter of square

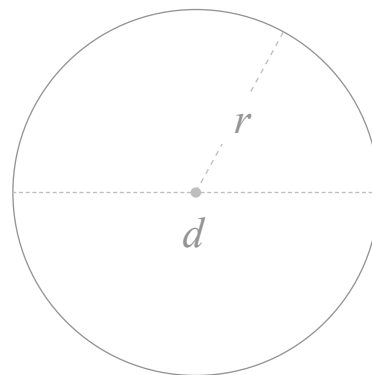$$4s = P$$

s

Circumference of circle

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

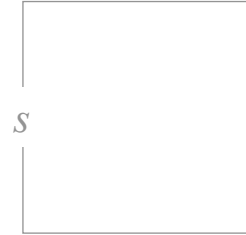r

d

Explore all 9th Grade Math Programs

Area of rectangle
$$lw = A$$

w

l

Area of square
$$s^2 = A$$

s
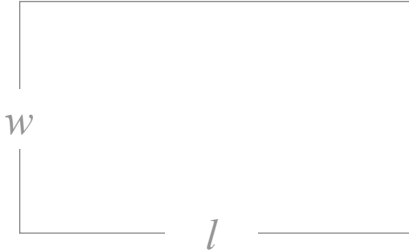
Area of triangle
$$\tfrac{1}{2}\, bh = A$$

h

b

Area of circle
$$\pi r^2 = A$$

r

d
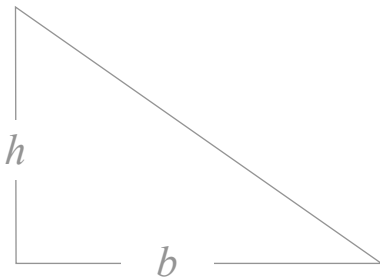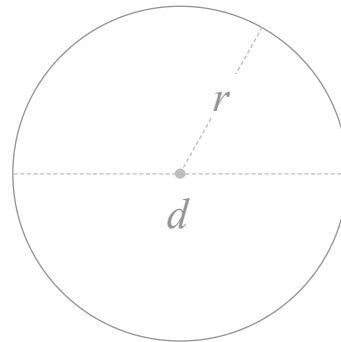
Area of trapezoid
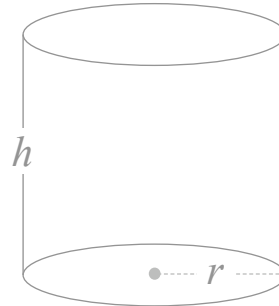$$\tfrac{1}{2}\, h(b_1 + b_2) = A$$

b_1

h

b_2
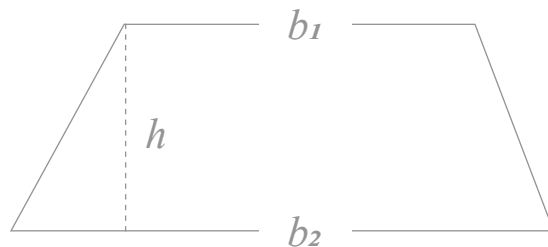
Surface Area of rectangular prism
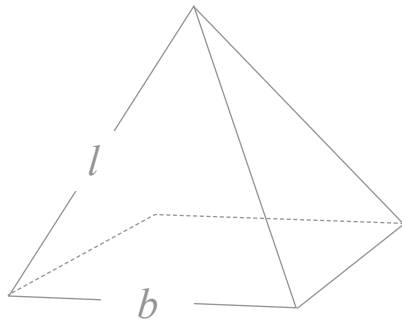
$$2B + Ph = SA$$

Surface Area of right cylinder
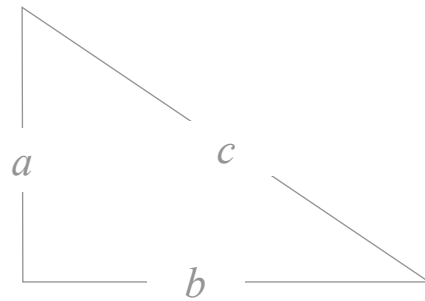
$$2\pi rh + 2\pi r^2 = SA$$

Surface Area of right pyramid

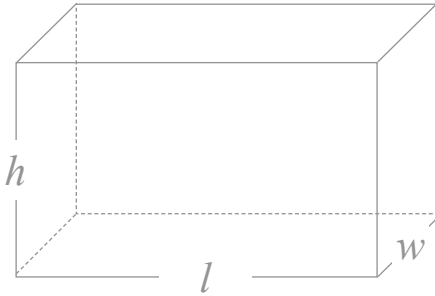$$\tfrac{1}{2}\,l\,P + 2B = SA$$

Pythagorean Theorem

$$a^2 + b^2 = c^2$$

To calculate distance traveled

$$d = rt$$

DISTANCE = RATE x TIME

✳ SONLIGHT

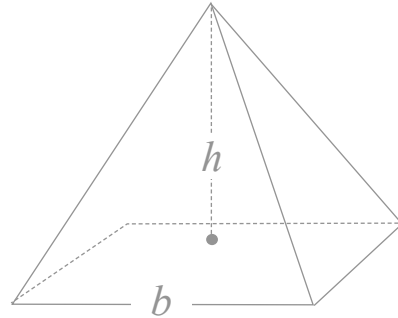Explore all 9th Grade Math Programs
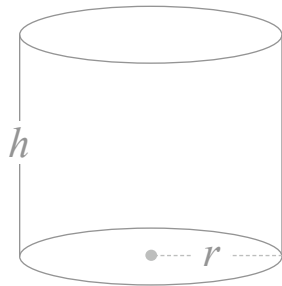
Volume of rectangular prism

$$lwh = V$$

Volume of right pyramid
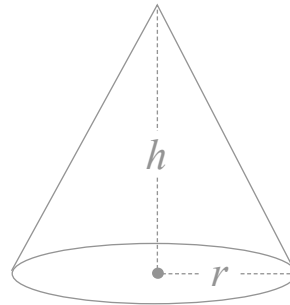
$$\tfrac{1}{3}Bh = V$$
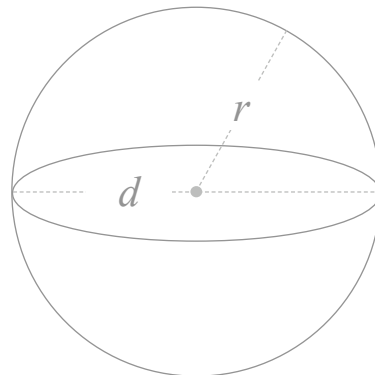
Volume of right cylinder

$$\pi r^2 h = V$$

Volume of cone

$$\tfrac{1}{3}\pi r^2 h = V$$

Volume of sphere

$$\tfrac{4}{3}\pi r^3 = V$$

Special Right Triangles
30°-60°-90°

S-$s\sqrt{3}$-$2s$

A

60°

25

s

90°

30°

B ← $s\sqrt{3}$ → C
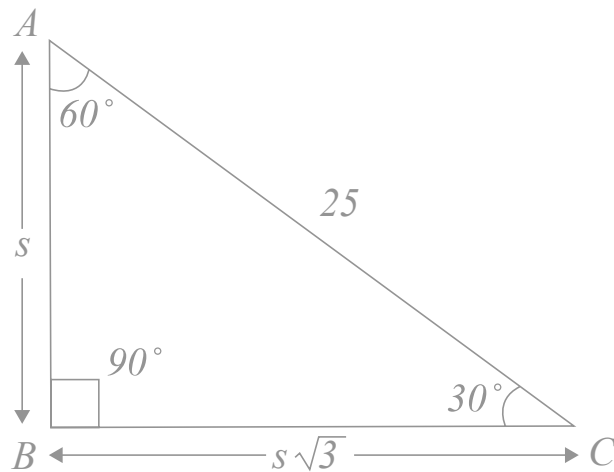
Special Right Triangles
45°-45°-90°

s-s-$s\sqrt{2}$

45°

$s\sqrt{2}$

s

45°

90°

s
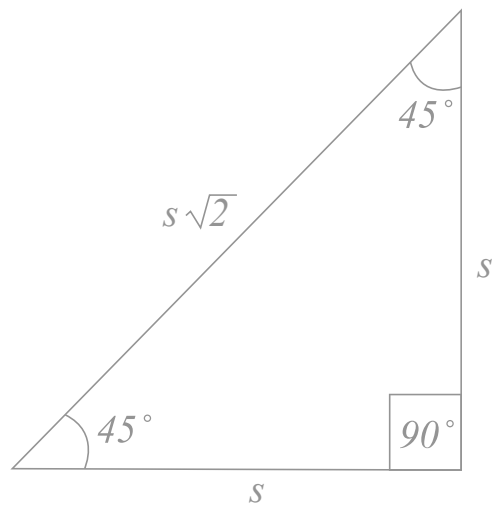
Equation of a Circle

$$(x-h)^2+(y-k)^2=r^2$$
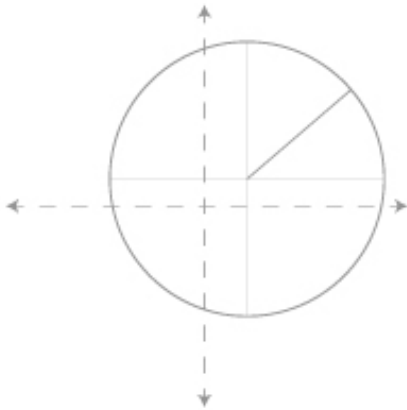
Slope Formula

$$m = y_2 - y_1 \,/\, x_2 - x_1$$

(x_2, y_2)

(x_1, y_1)
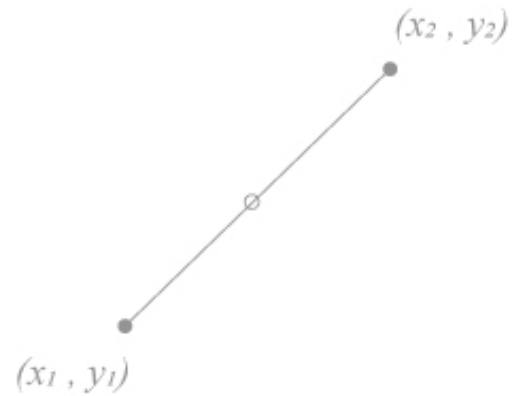
Midpoint Formula

$$(x_1 + x_2 / 2 \,,\, y_1 + y_2 / 2)$$

(x_2, y_2)

(x_1, y_1)
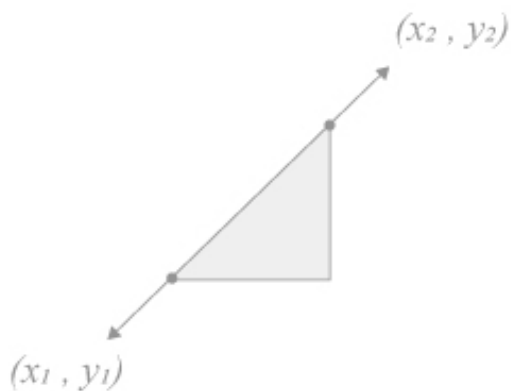
Distance Formula

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(x_2 - x_2)^2 + (y_2 - y_2)^2}$$

9th Grade Mathematics Reference Sheet

CONVERSION FACTORS

UNITS
12 inches = 1 foot
3 feet = 1 yard
5,280 feet = 1 mile
8 fl oz = 1 cup
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon
16 oz = 1 pound
2, 000 pounds = 1 ton

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

METRIC CONVERSIONS		
10 millimeters = 1 centimeter	10 milliliters = 1 centiliter	10 milligrams = 1 centigram
100 centimeters = 1 meter	100 centiliters = 1 liter	100 centigrams = 1 gram
1,000 meters = 1 kilometer	1,000 liters = 1 kiloliter	1,000 grams = 1 kilogram

SONLIGHT

Explore all 9th Grade Math Programs