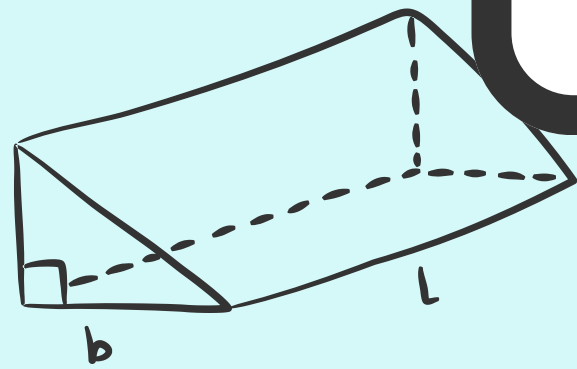


$$\sin(\theta) =$$



$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$a = \frac{V_f - V_i}{t}$$



$$V = \frac{1}{2} bhl$$

$$\frac{x}{a} + \frac{y}{b} = 1$$

$$ax^2 + bx + c = 0$$



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

$$= mx + b$$

ALGEBRA 1

BY: STEPHANIE

LINEAR EQUATIONS:

Slope-intercept:

$$\hookrightarrow y = mx + b$$

standard form:

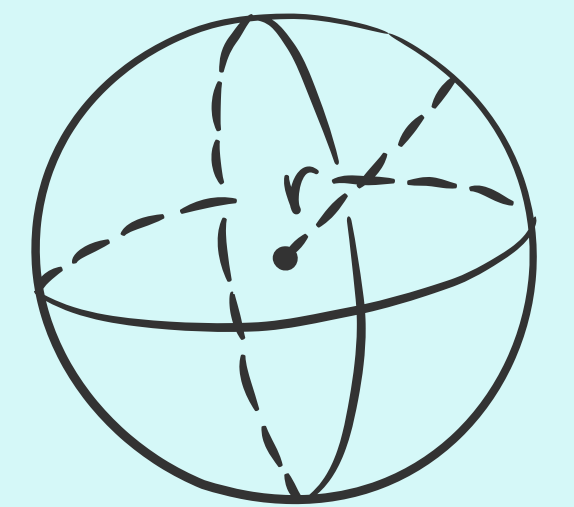
$$\hookrightarrow Ax + By = C$$

point-slope form:

$$\hookrightarrow y - y_1 = m(x - x_1)$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y = mx + b$$



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

LINEAR EQUATIONS 2.0:

you can determine if the slope of a function is parallel, perpendicular or neither to another function.

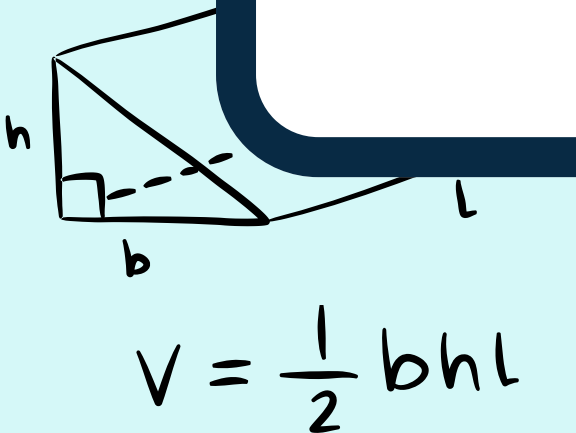
Perpendicular:

$$m_1 \times m_2 = -1$$

Parallel:

$$m_1 = m_2$$

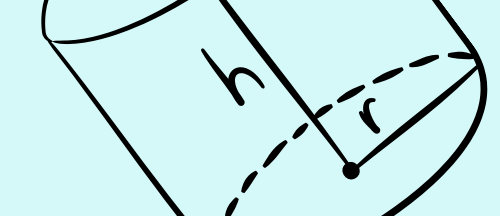
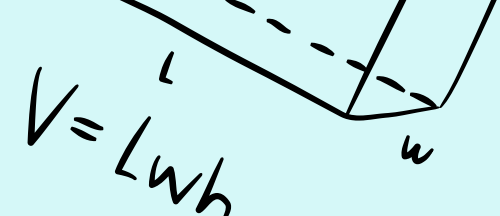
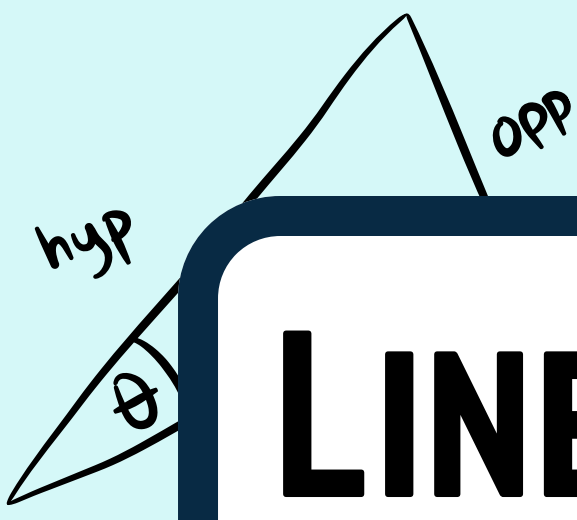
a =



$$\frac{x}{a} + \frac{y}{b} = 1$$

$$ax^2 + bx + c = 0$$

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



$$x = -b \pm \sqrt{b^2 - 4ac}$$

$$b^2 - 4ac$$

$$+ b$$



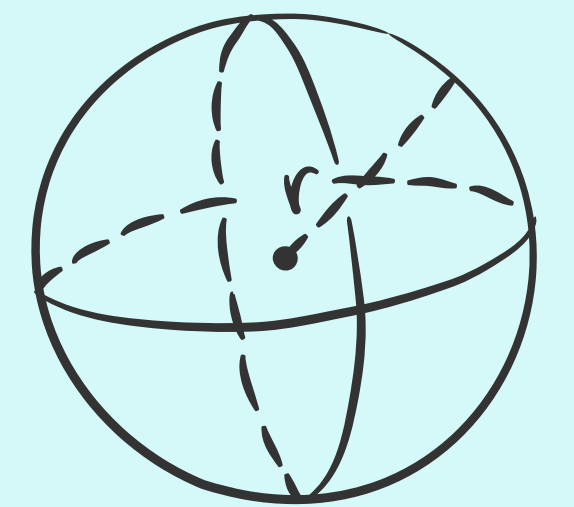
SYSTEM OF EQUATIONS:

Two or more equations that share variables.

A system of equations is called inconsistent if it has no solutions. It is called consistent otherwise.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y = mx + b$$



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

ABSOLUTE VALUE:

Absolute value describes the distance from zero that a number is on the number line, without considering direction.

$$|-a| = a$$

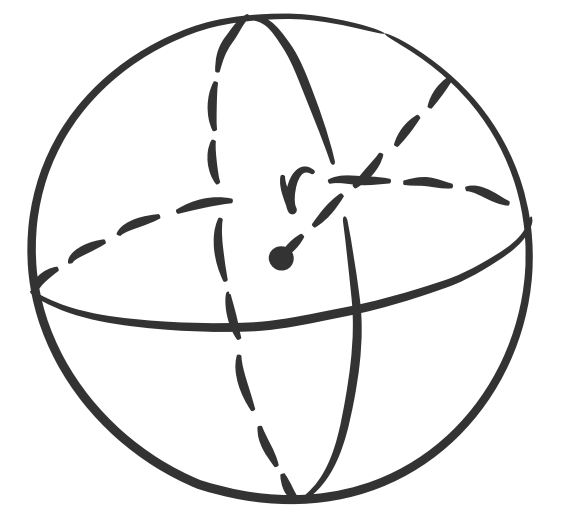
$$|+a| = a$$

QUADRATIC FORMULA:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y = mx + b$$



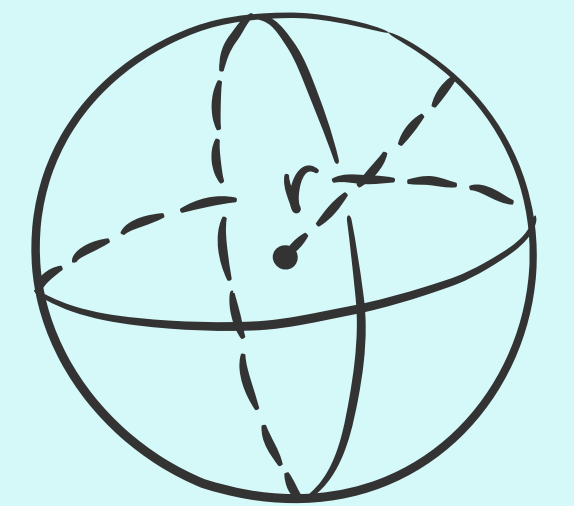
$$V = \frac{4}{3} \pi r^3$$

INEQUALITIES:

Inequalities are mathematical expressions involving the symbols $>$, $<$, \geq and \leq . To 'solve' an inequality means to find a range, or ranges, of values that an unknown x can take and still satisfy the inequality.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y = mx + b$$



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

Algebra 1

$$1) 8 - 5x = x + 15$$

$$2) 0,5(5 - 7x) = 8 - (4x + 6)$$

3) Solve for y : $py + 7 = 6y + 9$

4) $|2x - 1| = 5$

5) are the functions $h(x) = 2x - 3$ and $g(x) = -3x + 7$ parallel, perpendicular, or neither?

8) Elle paints walls for a living. She paints at a constant speed, and then she takes a constant amount of time to clean up.

The table compares the total area Elle paints (in square meters) and the time it takes Elle to finish painting and cleaning up (in hours).

Area (m^2)	time (hours)
30	2
45	2,75
60	3,5

How long does it take Elle to paint 1 square meter?

9) $3z + 9 + 14z = 4z + 5$

- a) no solutions
- b) exactly one solution
- c) infinitely solutions

10) simplify assuming z is positive.

$$5\sqrt{14z^2} \cdot 4\sqrt{21z^3}$$

11) In which step was a mistake made?

$$2(x-3)^2 + 4 = 102$$

$$2(x-3)^2 = 106 \quad \text{Step 1}$$

$$(x-3)^2 = 53 \quad \text{Step 2}$$

$$x-3 = \pm \sqrt{53} \quad \text{Step 3}$$

$$x = \pm \sqrt{53} + 3 \quad \text{Step 4}$$

12) Solve the system of equations:

$$2x + y = 8 \quad , \quad 3x - 2y = 5$$

$$13) \quad \frac{x}{2} + 3 = 7 \left[\frac{4(2+5)}{7} - 3 \right]$$

14) solve using the quadratic formula $3x^2 - 7x + 2 = 0$

15) FACTOR $x^2 - 5x + 6$

16) Solve the system of equations:

$$x^2 + y = 10 \quad , \quad xy = 24$$

