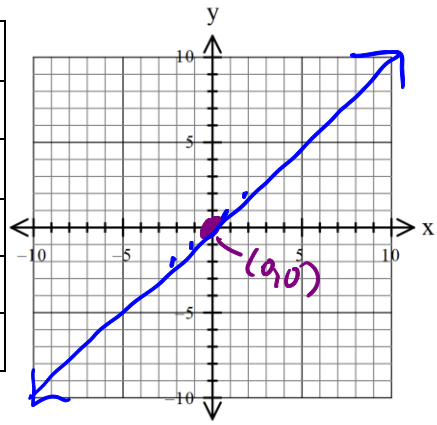
## Parent Functions #1

Name of Graph: linear

Equation: $y=x$ $f(x)=x$

| $x$ | $f(x)$ |
|---|---|
| -2 | -2 |
| -1 | -1 |
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |




### Key Features

Domain: $(-\infty,\infty)$

Range: $(-\infty,\infty)$

$x$-intercept(s): $(0,0)$

$y$-intercept: $(0,0)$

Increasing: $(-\infty,\infty)$

Decreasing: N/A

Constant: N/A

Positive: $(0,\infty)$

Negative: $(-\infty,0)$

Maximums /Minimums none

Symmetry: odd

End Behavior:

$\lim_{x\to-\infty} f(x) = -\infty$

$\lim_{x\to\infty} f(x) = \infty$

Slope Formula:

Midpoint Formula:

Distance Formula:

Slope-Intercept Form:

Point-Slope Form:

Standard Form:

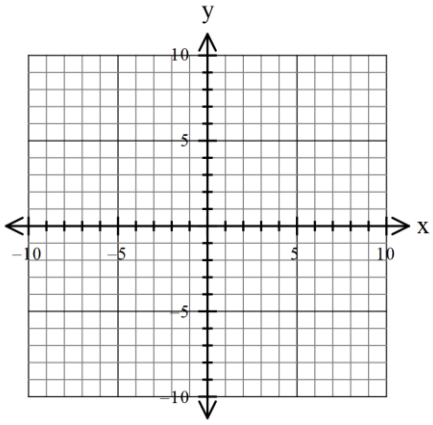
Transformation general equation:

## Parent Functions #1

Name of Graph: _____

Equation: _____

| $x$ | $f(x)$ |
|---|---|
| | |
| | |
| | |
| | |
| | |




### Key Features

Domain:

Range:

$x$-intercept(s):

$y$-intercept:

Increasing:

Decreasing:

Constant:

Positive:

Negative:

Maximums /Minimums

Symmetry:

End Behavior:

$\lim_{x\to-\infty} f(x) =$

$\lim_{x\to\infty} f(x) =$

Slope Formula:

Midpoint Formula:

Distance Formula:

Slope-Intercept Form:

Point-Slope Form:

Standard Form:

Transformation general equation:

3.1 Steps for solving a linear equation:

1) distribute
2) multiply by LCD to get rid off fractions
3) add like terms
4) do opp of constant to both sides
5) ÷ coef to both sides
6) check answer

ex

$3x - 5 = 22$

$+5 \quad +5$

$\frac{3x}{3} = \frac{27}{3}$

$x = 9$

$3(2x+5) - 7x = 2x + 6$

$6x + 15 - 7x = 2x + 6$

$-x + 15 = 2x + 6$

$+x \quad -6 \quad +x \quad -6$

$9 = 3x$

$x = 3$

$\left(\frac{3}{5}x = \frac{7}{8}\right)40$

$\frac{24x}{24} = \frac{35}{24}$

$x = \frac{35}{24}$

Steps for solving a linear equation: