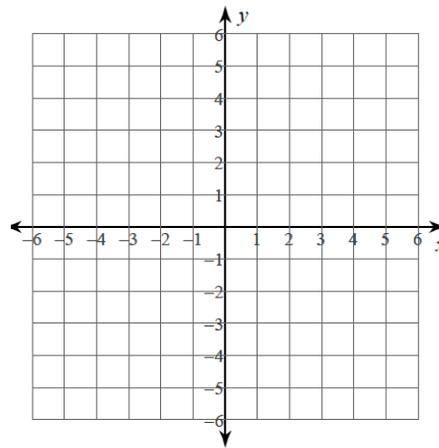
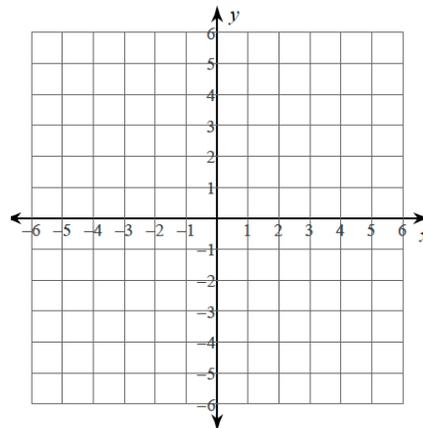


2.4 Graph Equations of Lines

Parent Function:

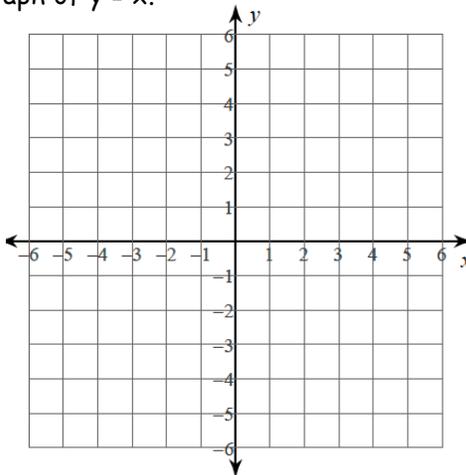


Slope - Intercept Form:



Graph and compare to the graph of $y = x$.

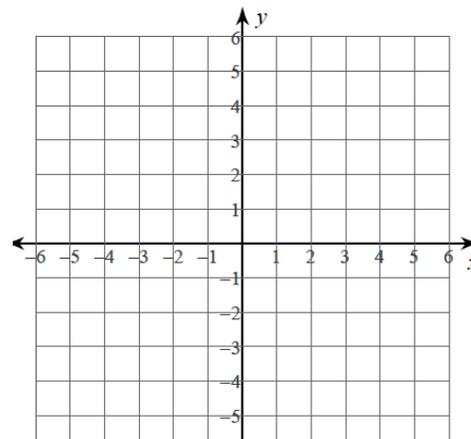
Ex 1:



ex 2:

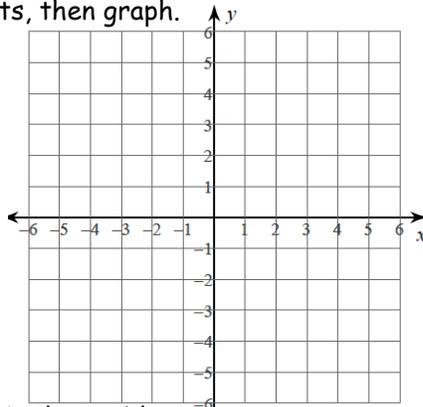
Standard Form:

Find the x- and y-intercepts then graph.



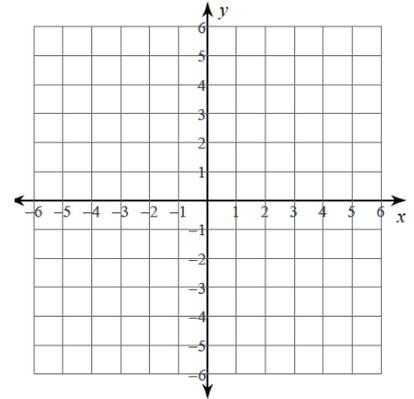
Find the x- and y-intercepts, then graph.

Ex 3:



Graph the following. What's the problem?

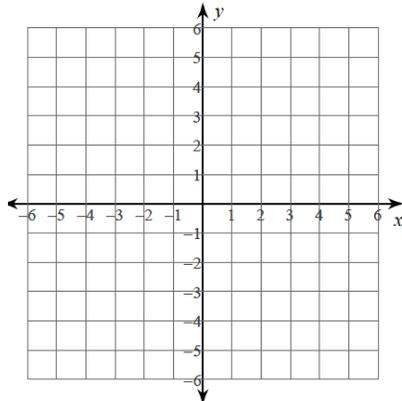
Ex 5:



Graph using any method.

Ex 6:

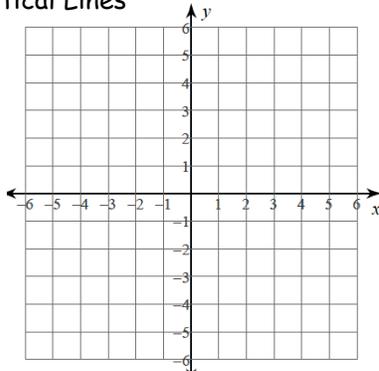
Standard Form



Slope-Intercept Form

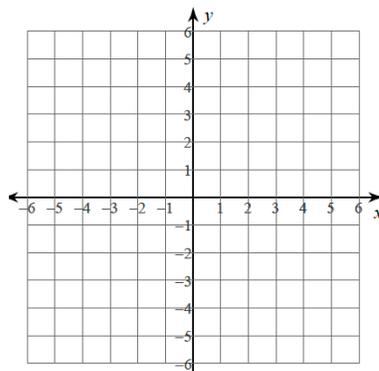
Graphing Horizontal and Vertical Lines

Horizontal Lines



Vertical Lines

YOU TRY!

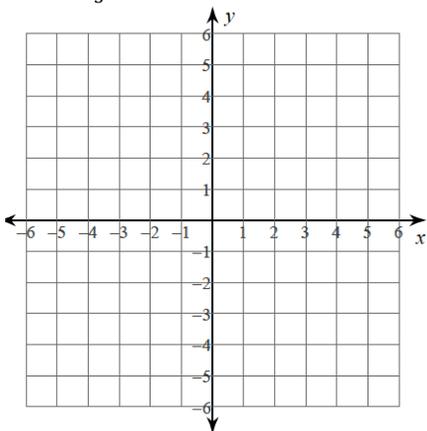


SUMMARIZE YOUR NOTES:

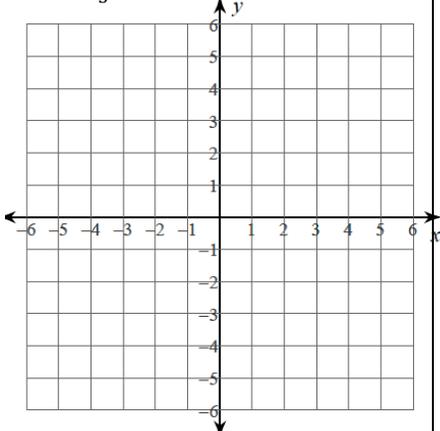
2.4 Practice Problems

Directions: Graph each and then compare to the equation $y = x$.

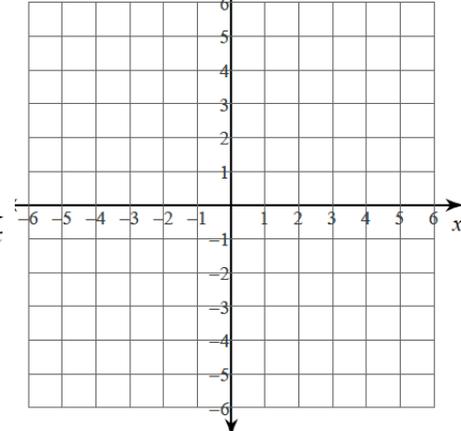
1) $y = \frac{2}{3}x - 5$



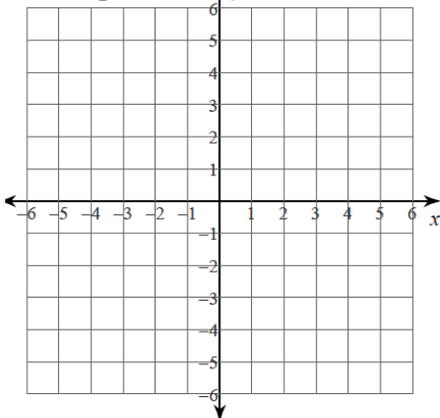
2) $y = -\frac{4}{3}x + 6$



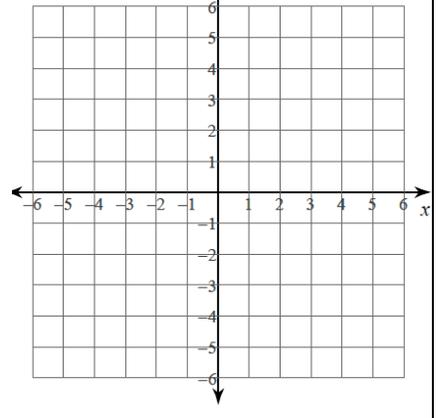
3) $y = -3x + 5$



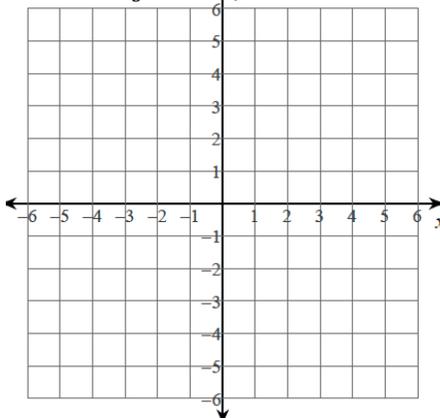
4) $y = \frac{1}{2}x + 1$



5) $x = -5$

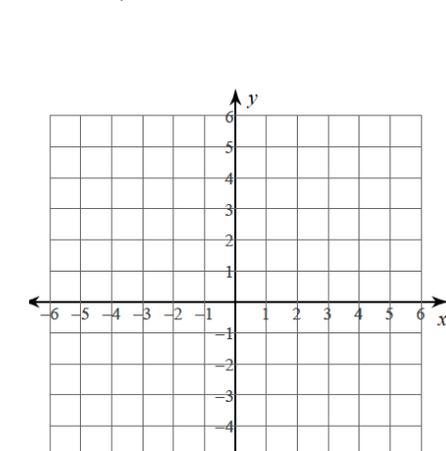


6) $y = -\frac{1}{3}x - 3$

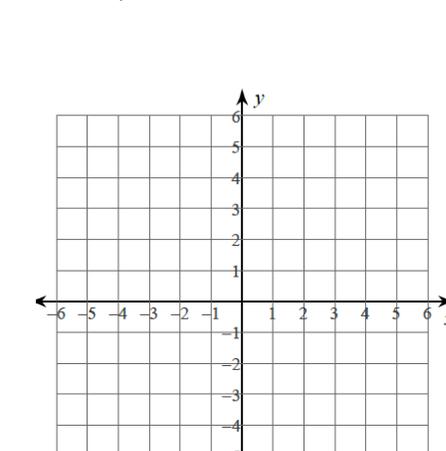


Directions: Find the intercepts and then graph.

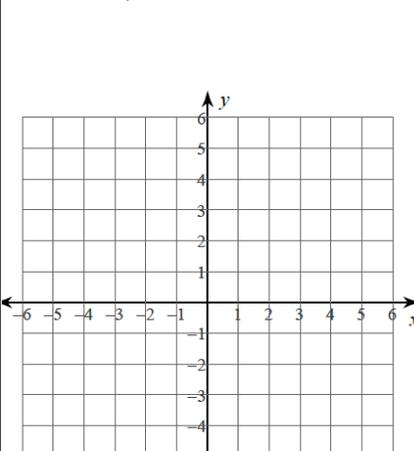
7) $2x - 3y = 12$



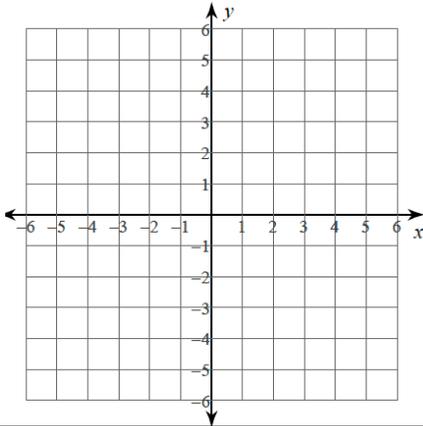
8) $9x + 3y = 18$



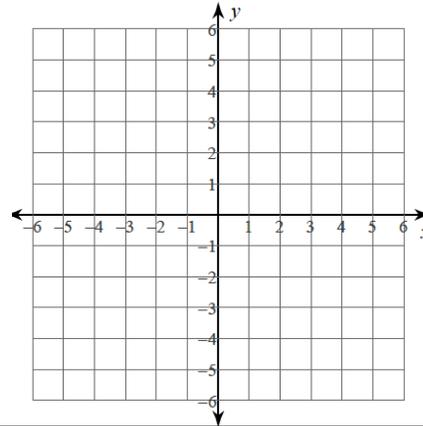
9) $2x + 5y = -10$



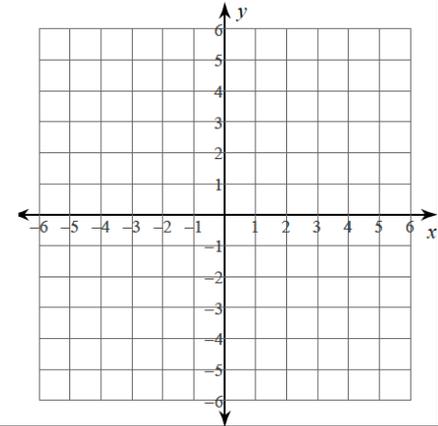
10) $5x - 6y = -30$



11) $4y = -8$

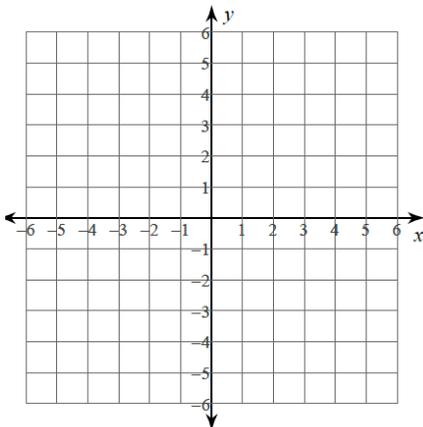


12) $x - 5y = 5$

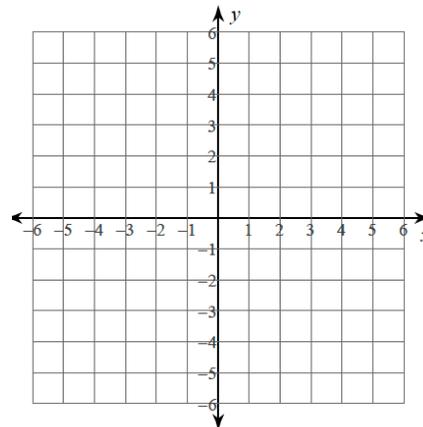


Directions: Graph by any method.

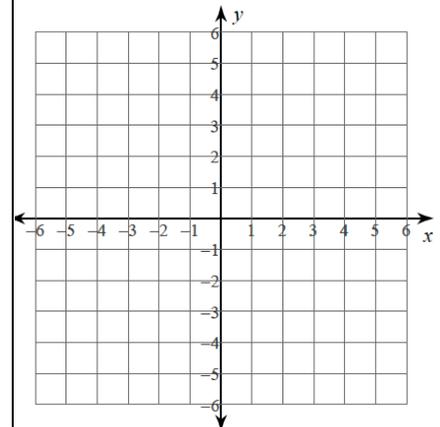
13) $3x - 2y = 8$



14) $4x + 5y = -20$



15) $5x - 4y = -12$



Algebra Skillz

1) Find the y-intercept(s)

2) Find the x-intercept(s)

3) Find $f(1) =$

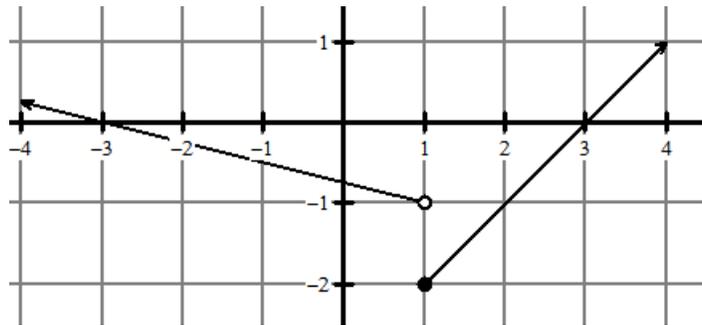
4) Find x when $f(x) = 0$

5) Simplify: $6\sqrt{80}$

6) Simplify: $-\sqrt{42}$

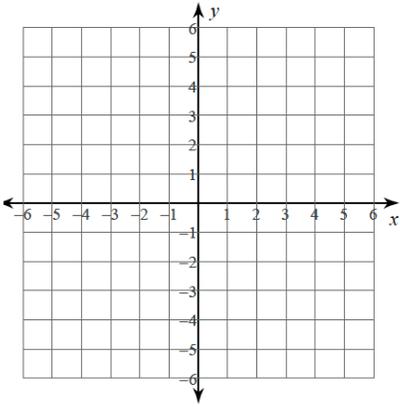
7) Solve: $\frac{60}{2x} + 7 = 10$

8) Factor: $x^2 + 12x + 32$

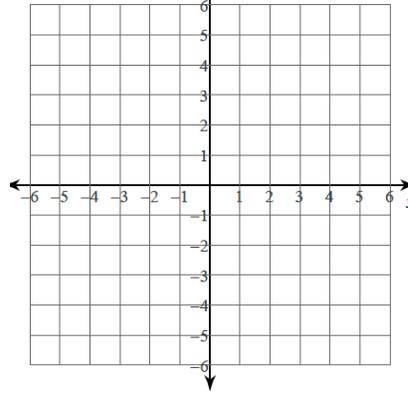


2.4 Application and Extensions

1) Graph: $4x - 2y = 8$



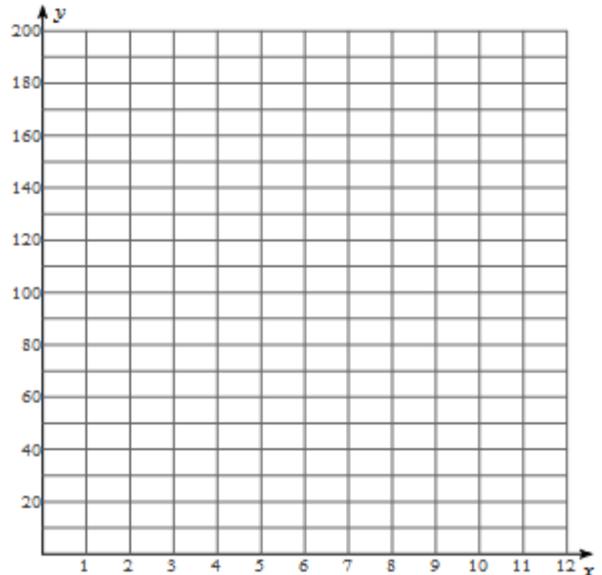
2) Graph using any method: $2x + 5y = 15$



3) The V Foundation is a charity whose mission is to generate support for cancer research. Through their fundraising efforts they fund different research institutes all with the hope of one day finding a cure for cancer.

Mike K. wanted to support the V Foundation and his contributions was modeled with the equation $f(x) = 10x + 40$, where x represented the number of months and $f(x)$ represents the total contribution in dollars.

- Graph the equation.
- What is the slope in this situation? What does it represent?
- What is the y -intercept in this situation? What does it represent?
- How much will Mike K contribute to the V Foundation for the entire year?



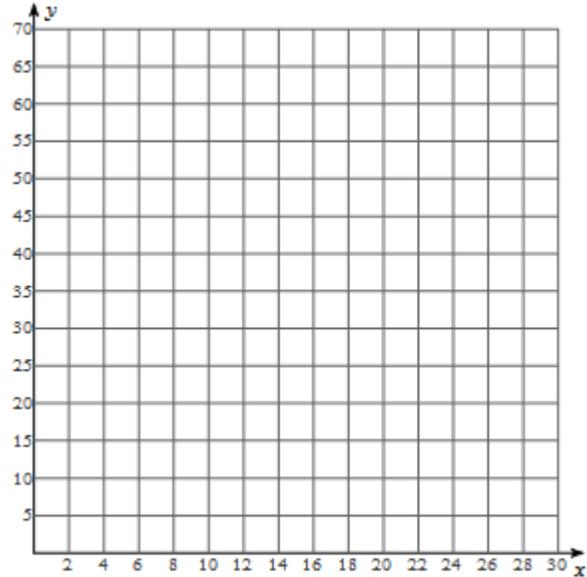
e) If Mike K wanted to donate \$200 per year with the same monthly donation what would he have to start the year donating? What's the equation to model that? Graph it.

f) If Mike K wanted to start the year off with the same donation but wanted to donate \$200 by the end of the year, how much would he have to donate each month? What's the equation to model that? Graph it.

For more information on the V Foundation visit www.jimmyv.org.

4) Brust is highly concerned that new legislation will impact his freedom...specifically his freedom to buy Antique Barbie Dolls. Before any new legislation can be enacted he decides to withdraw all his money from the bank (\$1800!!!!). He has a dealer and can buy Barbie dolls for \$90 and Ken dolls for \$30. He models the situation with the equation $90x + 30y = 1800$.

- Graph the equation.
- What does the x-intercept represent?
- What does the y-intercept represent?
- What's the domain and range for the scenario?
- If Brust buys 5 Barbie dolls, how many Ken Dolls can he buy?
- If he buys the same amount of Ken and Barbie dolls how many total dolls would he have bought?



SAT PREP Below are sample SAT questions. The SAT is the main standardized test that colleges look at for admission. One is multiple choices; the other is free response where you must grid in your answer. Blow it up.

MULTIPLE CHOICE

For which value of the following functions is $f(3) < f(-3)$?

- $f(x) = 2x^3$
- $f(x) = 2x - 5$
- $f(x) = \frac{x}{2x}$
- $f(x) = 5 - 2x$
- $f(x) = 5 + x^2$

GRID IN

If $f(x) = 100 - 2x^2$, what is the value of $f(-6)$?

•	•	•	•
	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9