

Exam 2

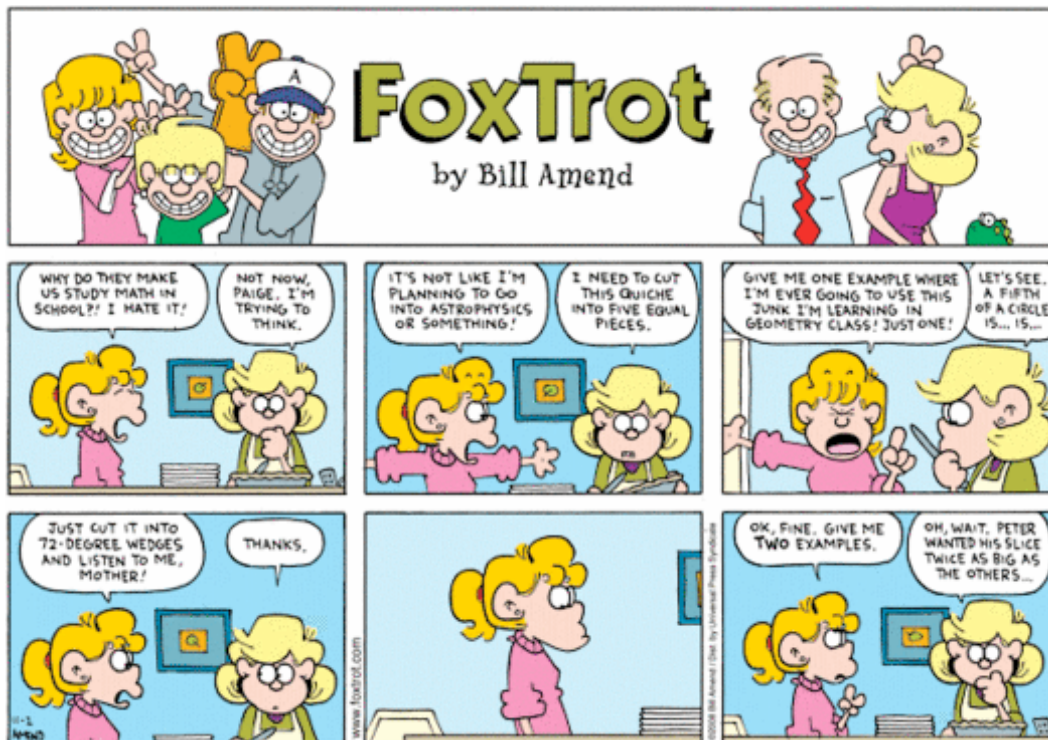
Math 40 - Elementary Algebra

- ✓ You have 50 minutes to complete the exam. Read ALL instructions carefully;
- ✓ You may NOT use a calculator;
- ✓ Use proper mathematical notation on ALL problems
- ✓ You may NOT use any notes, book, or neighbors during the exam;
- ✓ Use only pencil and indicate answers by BOXING, CIRCLING, or HIGHLIGHTING;
- ✓ You must show work to receive full credit and simplify all answers completely;
- ✓ Leave fractions as improper fractions if necessary (no mixed numbers);

I have read the above guidelines and agree to follow them. Also, the work contained on this exam is my own and I promise to adhere to academic honesty.

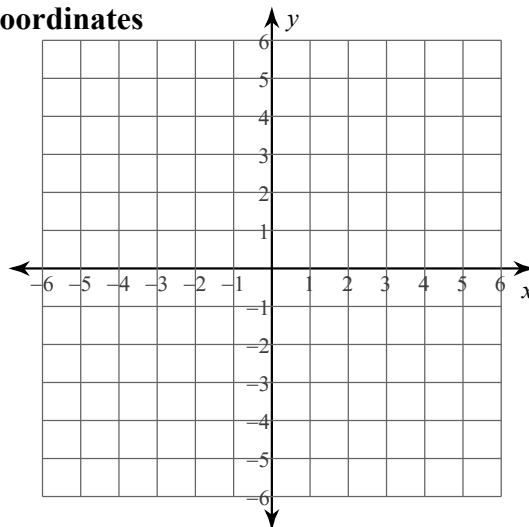
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1. Plot the following points on the axis and **label with coordinates**

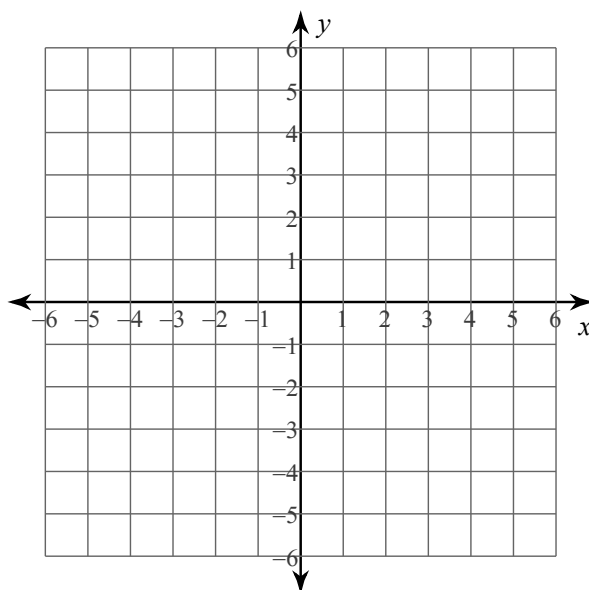
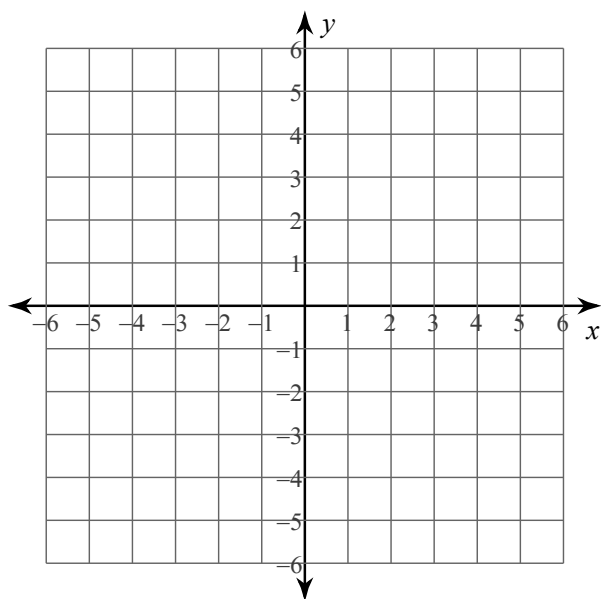
$(-4, -5)$, $(4, 6)$, $(0, -4)$, $(5, 0)$, $(2, -3)$



2. **Graph** the following linear equation using one of the three methods learned in class.

a. $y = -\frac{5}{3}x + 1$

b. $x - 3y = 9$

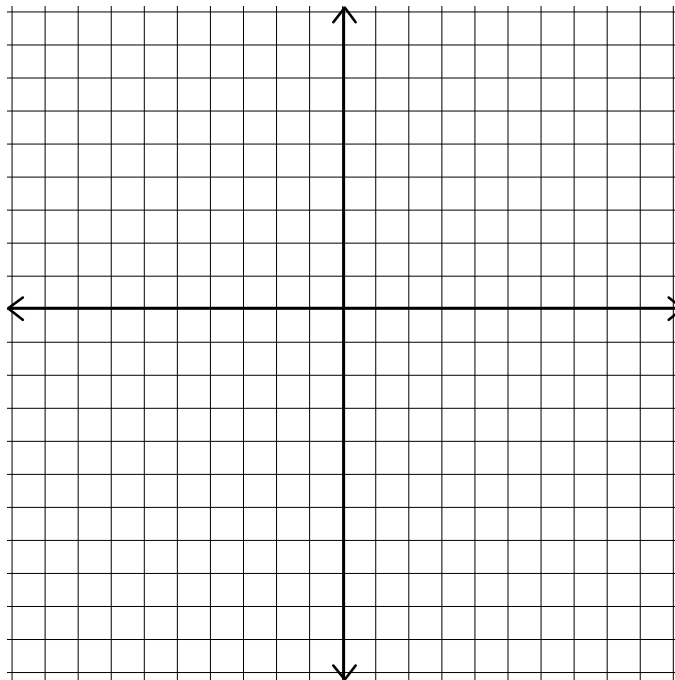


3. Find the **equation** of the line, in slope intercept form, through $(0, -6)$ with slope $m = -\frac{2}{3}$.

4. Given the two points $(-1, 6)$ and $(1, 2)$

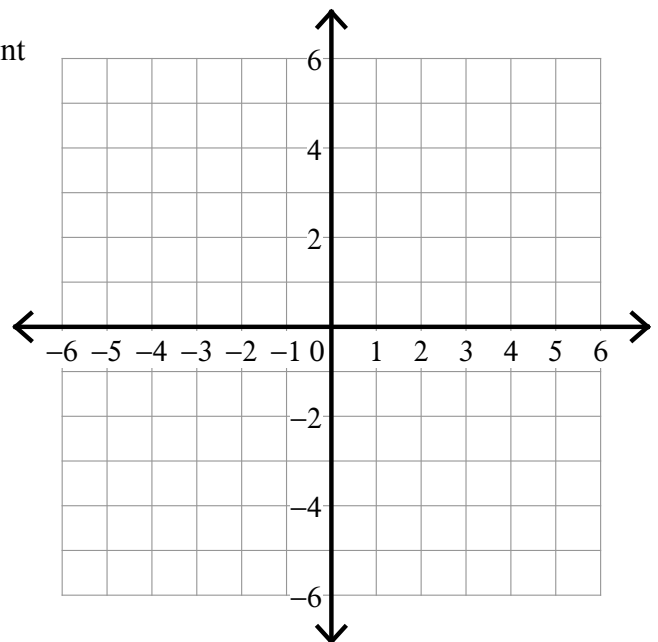
a. **Using algebra**, Determine the whole **equation** of the line in **slope-intercept** form that passes through the points

b. Accurately graph the equation found in part a. above by using the slope and y intercept or plotting points or plotting both of the intercepts (**Be sure to label and scale the axes**).



5. Graph the following two-variable inequality.
Shade the graph in the appropriate area to represent the solution. Pick a test point to check!

$$2x + 6y < 12$$

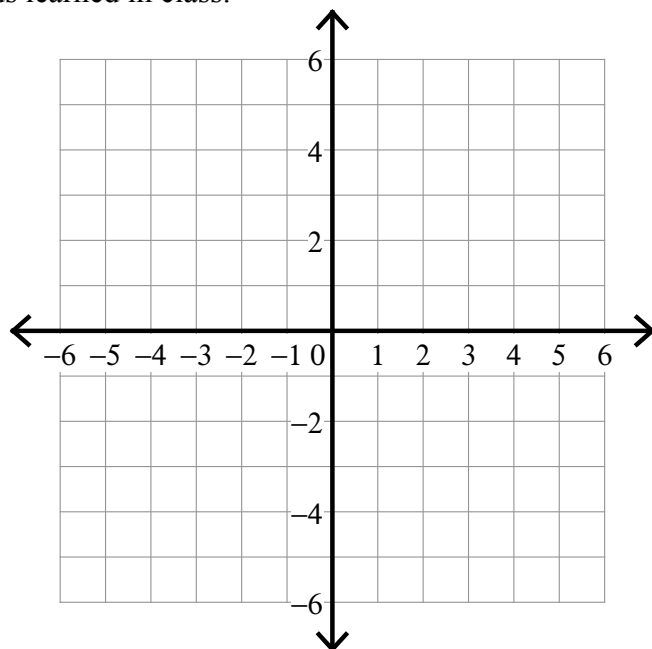


6. Solve the following system using ONE of the methods learned in class.

Answer appropriately!

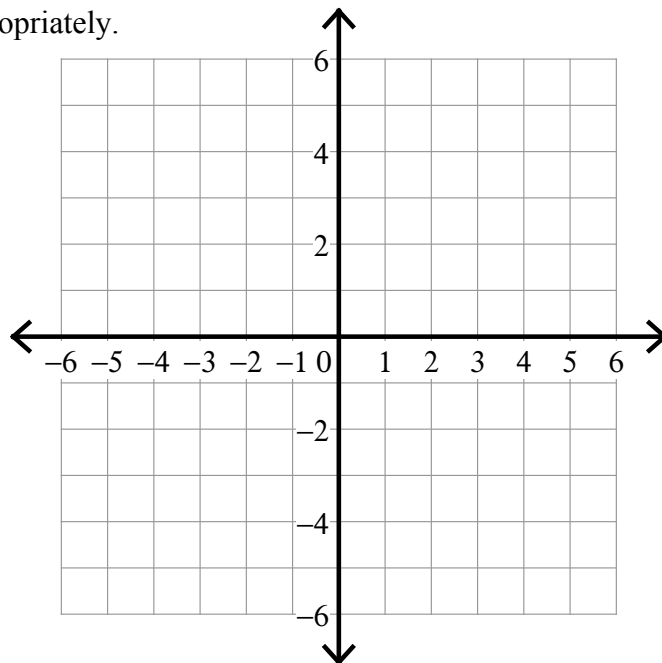
$$-3x + 2y = 6$$

$$y = 3x$$



7. Solve the following system $x + 3y = 3$ and $y = x + 5$ and answer appropriately.

a. graphically



b. substitution OR elimination

8. Solve **TWO of the three** following word problems. Use the **5-Step Process** in order to solve. Note this requires more than just guessing an answer and checking it.
- a. Tickets to a community theater cost \$10 for adults and \$6 for children. A total of \$680 was collected for one evening performance. If 20 more adults attended than children, how many adults and children attended the show? (2.5/2.6 material)
 - b. Mr. Wilson invested money in two accounts. His total investment was \$20,000. If one account pays 6% interest and the other pays 8% interest, how much does he have in each account if he earned \$1,380 in interest in 1 year? (4.4 material)
 - c. How much 50% antifreeze solution and 40% antifreeze solution should be combined to give 50 gallons of 46% antifreeze solution? (4.4 material)