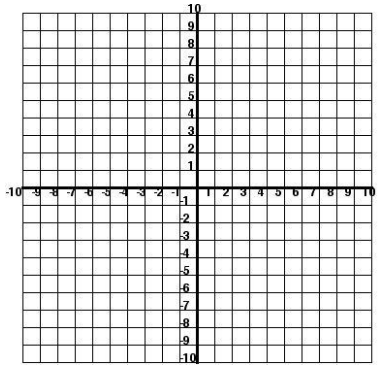
Name: _____ Date: _____ Pd. _____

Algebra 1 EOC Review Questions

Make sure to show all your work and capture important notes.

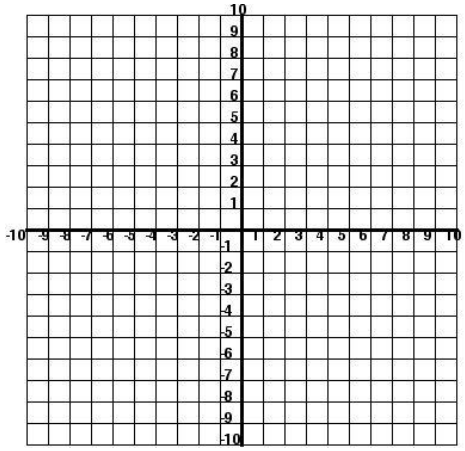
Part 2: Calculator Section

1. Using the **quadatric formula**, solve $4m^2 - 12 = 8m$
2. Solve for f: $5m = \frac{pf^2}{2}$
3. Solve and Graph:
   a. $3 < 3x + 6 < 9$
   b. $-1 < -x + 6 < 15$
   c. $-4 < x - 3 < 5$
4. Find the **solutions** of: $\frac{1}{2}x^2 + 2x - 5 = 3$
5. Solve for the values of x: $f(x) = (x + 3)^2 - 6$
6. A young scientist launched a rocket off the top of a building. The height of the rocket, h, is modeled by the function $-2.75t^2 + 7t + 20$, with time, t. What is the height of the building that the rocket was launched from?
7. What are the values of x and y in each example below? *Use your exponent rules.*
   a. $\sqrt{ph} \cdot \sqrt[4]{ph} = p^x h^y$
   b. $\sqrt{m^3 r^6} \cdot \sqrt[4]{mr^6} = m^x r^y$
   c. $\sqrt[2]{ab^5} \cdot \sqrt{a^3 b^5} = a^x b^y$
8. Sketch a graph of the function: $f(x) = x(x - 2)(x + 4)$

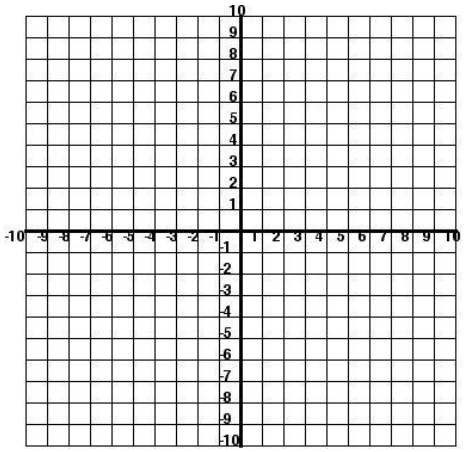


9. Graph the systems of inequalities below.
   Place a **STAR** in the area that represents the solution set.

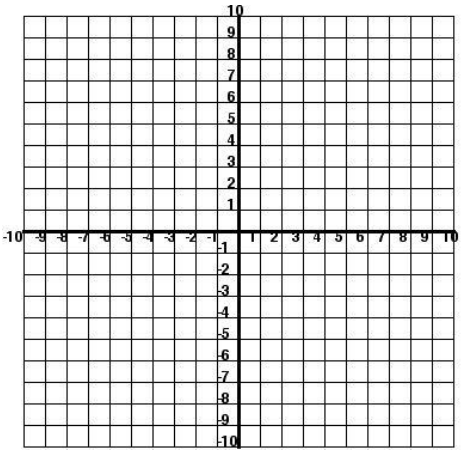
   a. $\begin{cases} -x + y \geq 2 \\ -2x - y > 7 \end{cases}$



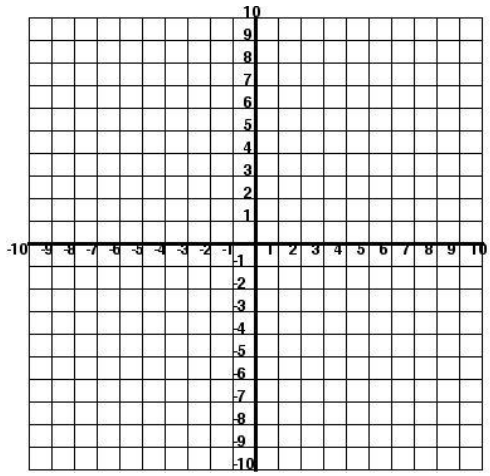
b. $\begin{cases} 14x + 2y > -3 \\ x \leq 4 \end{cases}$



c. $\begin{cases} 5x + y \geq -4 \\ x + 2y \leq 3 \end{cases}$

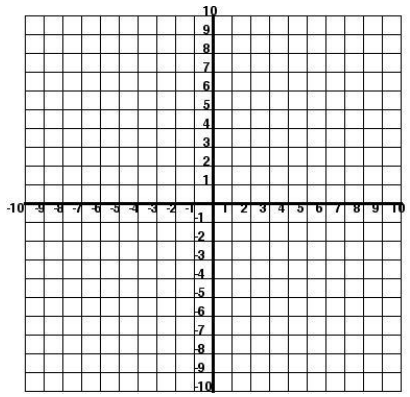


10. Graph: $f(x) = 3.5x + 6$



11. The Apple Store has a great deal on new iMacs. You purchase an iMac desktop for $4,100 and the value of it **depreciates** annually by 15%. Write a function that represents this situation.

12. Graph: $\frac{2}{3}x + \frac{1}{3}y = 2x - \frac{2}{3}$



13. The falling advertising profits for a failing paper company is modeled by the function $p(t) = -0.37t^2 + 8.15t - 2.01$ with time, t, in years. Find the the amount of profits in year 13.
14. On the day you were born, your grandparents purchased a savings bond for you to collect later in your life. Your grandparents bought the savings bond for $5,300 and each year, the bond accrued 5.4% in **annual interest**. Using this information, create an equation that will model how much money your savings bond will have after t number of years.
15. The only solution to f(x) = g(x) is x = 4. What is b?
    f(x) = $\frac{1}{2}^x$
    g(x) = b^{-2x+9}
16. Allison and Spencer went shopping for back to school clothes. Allison purchased three shirts and three pairs of shorts and spent $45.00. Spencer bought ten shirts and five pairs of shorts and spent $80.00. Assuming the shirts cost the same amount, and all the shorts cost the same amount, write a **system of equations** to represent Allison and Spencer's shopping spree. Find the price of one pair of shorts.
17. Find the solutions of:
    a. $\frac{1}{4}x^2 + 8 = 24$
    b. $-16 + \frac{4}{5}x^2 = -8$
    c. $\frac{1}{5}x^2 + 2 = 22$

REFLECTION

reflect on what you've learned

1) Select what was true about how you completed this assignment:

- ☐ I watched the videos without any distractions
- ☐ I copied very single note that the teacher wrote in the video
- ☐ I tried some problems by myself when the teacher told me to
- ☐ The teacher solved things differently than what I have been taught in class
    - Write the questions numbers that were different:

_____

- ☐ I plan on watching this video again closer to the EOC
- ☐ I feel more confident about some of the questions now that I completed this packet with video help
- ☐ I plan on attending Saturday Camp this year for Mathematics (April 27, May 4, May 11)

2) List which questions were the easiest:

3) List which questions were the hardest:

4) What topics/questions do you want to ask your teacher when you get back from Spring Break?