Hello and Welcome to Algebra 1!

For those of you that may not know me, I am Miss Sobanski - I have met and worked with some of you from Cross Country and Track and Field in the previous years. I am so excited to have you in Algebra 1 this year and I hope you're excited as well.

This summer I wanted to provide an assignment that would help you prepare for and be more successful in Math class this year. This packet has 32 problems that are a good review of two key topics you will need to know in Algebra 1: Solving Equations and Linear Equations (slope, graphing, and writing equations). You have probably worked with these two topics before, or at least heard them in your class last year. If you don't remember them or you're struggling with these practice problems there's some great tools and videos on Khan Academy you can look at.

We will spend some time the first week or two of school going over this packet and these types of problems, completing some additional practice where we need to. You should expect that after this review, we will be having a test on these topics which will count as your first grade for the year. This test will give me an idea of what you already know coming into Algebra 1 and where you might need some additional practice. Those of you that have difficulty on this assessment will have the opportunity to retake this assignment for an improved grade by working with me either after school or during some extra practice time we have.

I want to see you all be successful in this class and in high school and feel like these problems will help set you up for success in the upcoming year. I'm excited to meet you all and hope you have a wonderful summer!

Miss Sobanski

Algebra 1
Name_____

Summer Assignment: Preparation for Algebra 1

Date_____ Score_____

Solve each equation.

1) $20x = -380$

2) $15 = a + 19$

3) $21 = -(-5 + r)$

4) $\dfrac{n + 10}{3} = 9$

5) $250 = 5(8n + 2)$

6) $-4(-3n - 1) = 100$

7) $-8(4n-8)-3(3n-5)=-3$

8) $61=-8(-2+3b)+3(1-6b)$

9) $\left|\dfrac{m}{9}\right|=3$

10) $\left|-7+a\right|-10=-5$

Solve each equation for the indicated variable.

11) $u=\dfrac{-3+9x}{2y}$, for x

12) $u=-4b+4a-4$, for a

13) Lisa made a trip to her friend's house and back. The trip there took three hours and the trip back took five hours. She averaged 30 mph on the return trip. Find the average speed of the trip there.

14) Nicole left the movie theater and traveled toward the town hall at an average speed of 70 km/h. Molly left one hour later and traveled in the opposite direction with an average speed of 23 km/h. Find the number of hours Molly needs to travel before they are 163 km apart.

Solve each question. Round your answer to the nearest hundredth.

15) It takes Carlos nine minutes to sweep a porch. Rob can sweep the same porch in ten minutes. Find how long it would take them if they worked together.
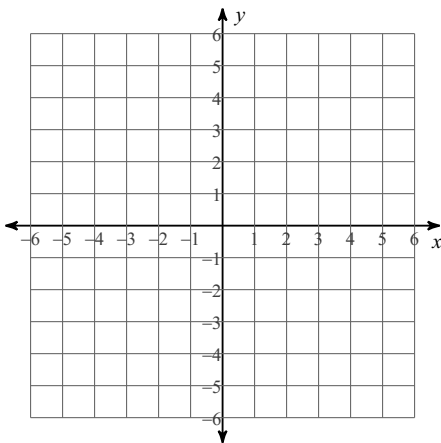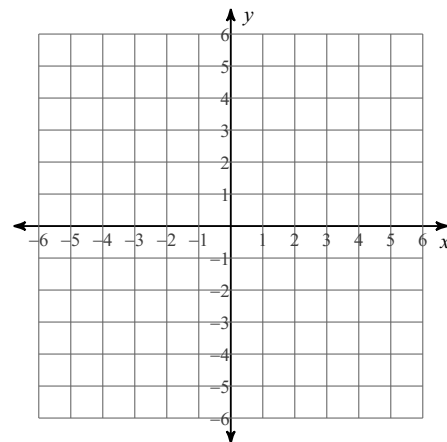
Find the slope of each line.

16)
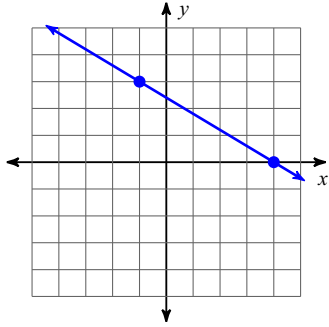
17) $(6, -18), (9, 1)$

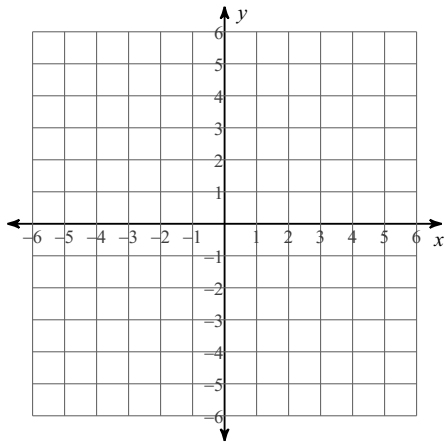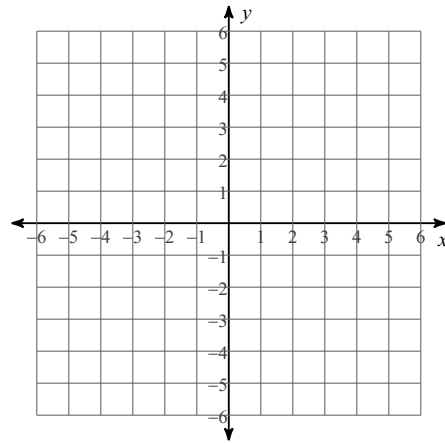**Sketch the graph of each line.**

18) $y = -\dfrac{3}{5}x - 2$
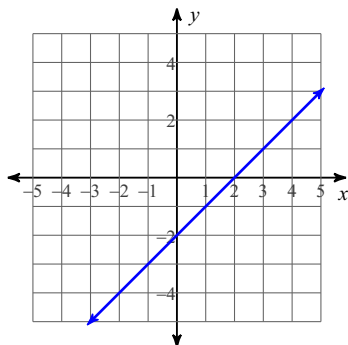

19) $y = 3x - 5$

20) $y = \dfrac{1}{3}x - 3$

21) $y = -x - 4$

Write the slope-intercept form of the equation of each line.

22)

23) Slope $= -6$, y-intercept $= 3$

24) through: $(-2, 1)$, slope $= -\dfrac{5}{2}$

25) through: $(1, -5)$ and $(-5, -4)$

26) $y + 5 = \dfrac{1}{5}(x + 5)$

27) $5x + 4y = 4$

Write the point-slope form of the equation of the line.

28) through: $(-4, -2)$, slope $= -\dfrac{1}{2}$

29) through: $(-5, 0)$ and $(-4, -2)$

30) You're studying English in a training center which charges a $500 registration fee plus $10 per lesson. Write an equation for this situation.

31) You figured out that you could make $30 per pool to clean pools during the summer. You did, however, need to purchase some equipment to get started. After cleaning 5 pools you still were down a total of 25 dollars.
    a. Write an equation to represent this situation.
    b. How much money did you need to spend on equipment?

32) You decide over the summer you're going to start collecting stamps again. After 9 days you count and find out you have 87 stamps. After 26 days you have a total of 206 stamps.
    a. Write an equation to represent this situation.
    b. How many stamps did you have at the beginning of this summer?