Summer Assignment for Students Going into
9th grade Algebra I, part 2 or Topics in Algebra I, part 2

Directions:

1. **Complete the following problems in this packet in the space provided without a calculator. If you need more space, attach your work. Show all work for full credit.**

2. There are selected answers in the back. **Check your answers. If you did not do a problem correctly, redo it until it is correct.**

3. If you need instruction or review of the topics in this packet, go to http://www.khanacademy.org/ . These are excellent videos that will re-teach and remind you how to go about the problems in this packet.

4. **These problems should be a good review of the concepts that are necessary for you to know at the start of the course you are entering.**

5. Bring this completed packet of problems, including your work, with you to math class on the first day of school. **It will be collected and graded.**

6. **Be sure you understand this material thoroughly and be prepared to take a 30-point quiz** on this material on the third day of school.

Summer Assignment for students going into Algebra I, Part 2. Name_____

These problems should be done without a calculator. Show all work. Fractional answers should be left as improper fractions, not as mixed numbers.

You should know how to add, subtract, multiply and divide fractions.

1) $\frac{1}{4}+\frac{3}{8}+\frac{5}{16}$

2) $1\frac{1}{7}+5\frac{2}{5}$

3) $\frac{7}{8}-\frac{1}{3}$

4) $4\frac{3}{10}-\frac{3}{5}$

5) $19-9\frac{1}{4}$

6) $28\frac{3}{8}-9\frac{3}{4}$

7) $\frac{3}{8}\cdot\frac{1}{4}$

8) $\frac{3}{4} \cdot 22$

9) $4\frac{3}{5} \cdot 4$

10) $\frac{3}{5} \div \frac{5}{6}$

11) $\frac{3}{4} \div 22$

12) $9 \div \frac{2}{3}$

13) $5\frac{1}{6} \div \frac{1}{3}$

14) $7\frac{5}{6} \div 1\frac{1}{5}$

15) $\frac{3}{5} \cdot \frac{4}{9} \cdot \frac{25}{27}$

You should know how to simplify expressions, collect like terms. Remember the distributive property.

16-19 Simplify the expression:

16) $8t + 6s - 3t + 5s$

17) $4(2x + x) - 6(4x + 3)$

18) $x - 5y - (-4x + 3y)$

19) $-2m + 5j - (-m - j)$

You should know how to solve equations in one variable. Remember collecting like terms, the distributive property and using inverse operations. Check your answer.

#20-29 Solve for x:

20) $163 - x = -52$

21) $5(x + 2) - 3 = 3x - 7$

22) $\frac{5}{9}x - 4 = 6$

23) $4(3x + 2) = 10 + 3x$

24) $5(x-3)-7(x+1)=4$

25) $\frac{3}{4}(x+4)=\frac{2}{3}$

26) $\frac{x+5}{5}=\frac{3}{10}$

27) $7x-2(3x+4)=15$

28) $19-3(2x-1)=10$

29) $2x+3(x-2)=5$

You should know how to solve inequalities. Remember to change the inequality sign if you multiply or divide both sides of the inequality by a negative number. Make sure you understand why this is so.

#30-33. Solve the inequalities. Graph the solution on a number line.

30) $-\frac{2}{3}x > 6$

31) $13 - x \leq 21$

32) $9x + 4 - 10x > -3$

33) $5x - (x - 8) > 9 + 3(2x - 3)$

You should know how to evaluate expressions. Remember to use PEMDAS for the order of operations.

#34- 37 Evaluate the following:

34) $\frac{x - y}{4}$ for x=1 and y=7.

35) x^2 for x= -3.

36) $(y - 3)^3$ for y=6.

37) $-2x^2 + 3x$ for x=-1.

You should know how to find the slope of a line given 2 points or the equation of the line.

#38-42: Find the slope of the line:

38) Through the given points: (-3,7) and (1,0).

39) Through the given points: (2,4) and (6,-4).

40) Given the equation: $2y - x = 7$.

41) Given the equation: y=6.

42) Given the equation: x= -2.

You should know how to write the equation of a line in slope intercept form, y=mx+b, and use the equation of a line to answer questions about the line and graph the line.

#43- 45. Write the equation of a line (in slope-intercept form) given the following information:

43) Given the slope 5 and y intercept (0, -2).

44) Given the slope of -3 and passing through the point (2,6).

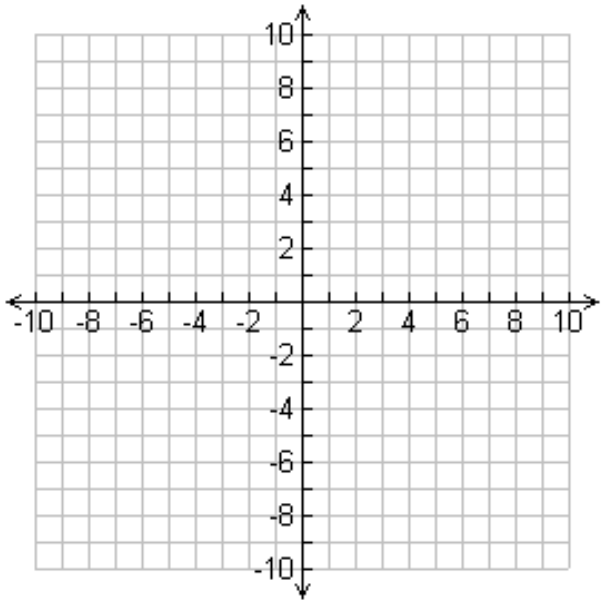
45) Given two points: (2,6) and (-5,13).

46) Find the slope of a line that is perpendicular to the line $3x - 8y = 10$.

47) Write the equation of a vertical line through the point (5,-1). Find the coordinates of another point on that line.

48) Write the equation of the line that is parallel to the line $5x + 3y = 1$ and contains the point (0,-2).

49) Graph the line with slope -2/3 and y-intercept 2.

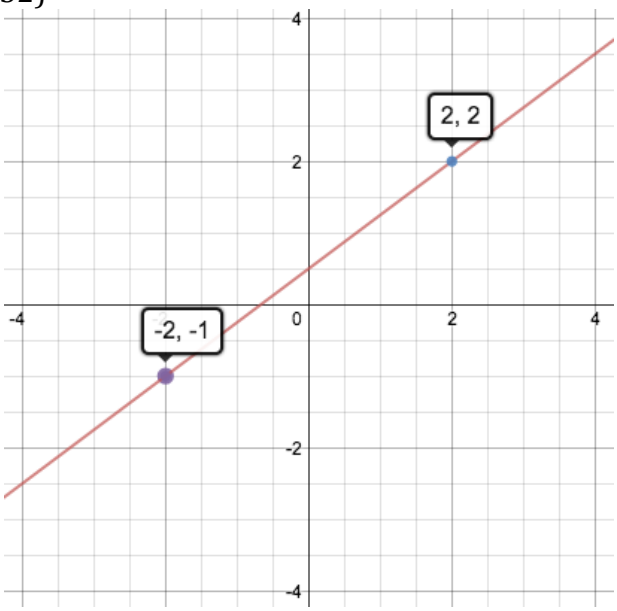


50) Find the x and y intercepts of the line: $5x - y = 15$.

51) Write the equation of a horizontal line through the point (-7,5).

Write the equation in slope-intercept form for each of the lines graphed below.

52)



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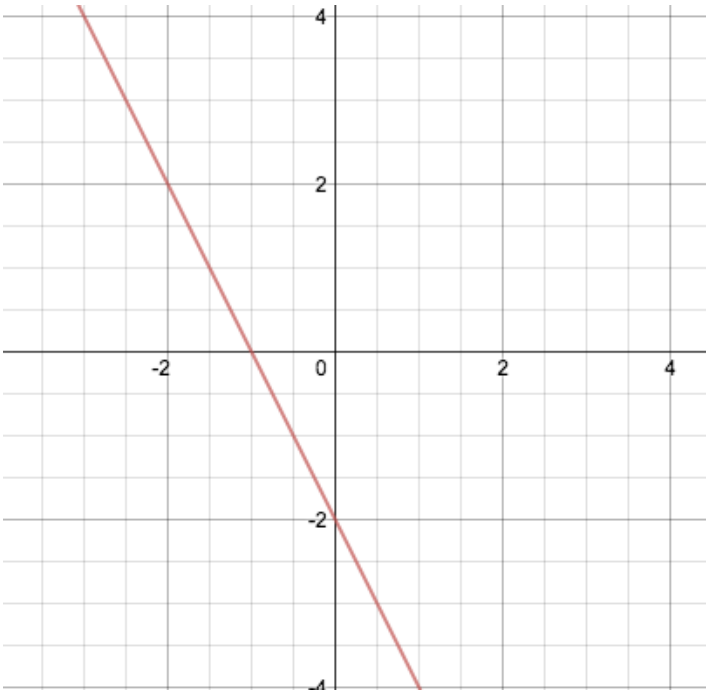
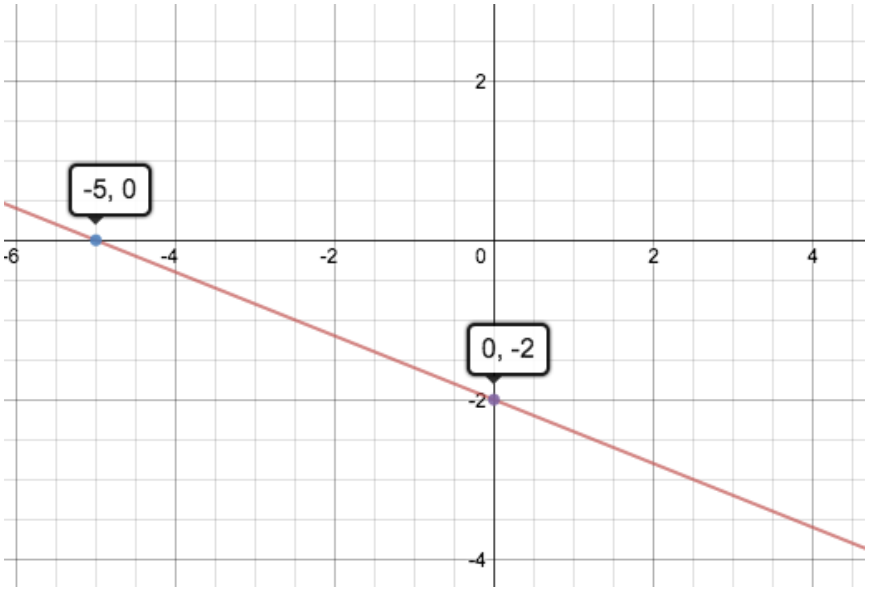


54) 

55) Graph the line: x-2y=2.