

Name \_\_\_\_\_

Date \_\_\_\_\_

Ms. Adler/Ms. Malina

Geometry

## **Summer Assignment for Students Entering Geometry**

### **Directions:**

- **Complete this assignment WITHOUT the use of a calculator.**
- **All work must be shown to receive credit.**
- **Write answers in the space provided.**
- **Complete this assignment before the first day of class and be ready to hand it in, fully complete, on the first day of class.**

### **Note to the Student:**

**The purpose of this assignment is to review topics that are essential to your success in Geometry. It will be assumed that all of the topics covered in this assignment, and in your previous math courses, have been mastered and will not need explanation as we use them in the Geometry course.**

**Please make sure that you complete this assignment no earlier than a month before school starts. You want to make sure to give yourself time to identify and relearn concepts you have difficulty with but you don't want to do it too early in the summer that you forget the material.**

**This assignment will have some weight in your first quarter grade, to be determined by the teacher of your class.**

**We hope you have a great summer and look forward to seeing you in the fall!**

**The Birch Math Department.**

Solve each of the equations below.

1)  $7x = -35$

Answer\_\_\_\_\_

2)  $60 = 6x + 12$

Answer\_\_\_\_\_

3)  $\frac{4}{5}x = -20$

Answer\_\_\_\_\_

4)  $5 = -\frac{x}{3}$

Answer\_\_\_\_\_

5)  $\frac{2x-5}{3} = \frac{x+7}{2}$

Answer\_\_\_\_\_

6)  $12 = 3x - 9$

Answer\_\_\_\_\_

7)  $x + 9x = 5$

Answer\_\_\_\_\_

8)  $4x + 23 = 9x - 7$

Answer\_\_\_\_\_

9)  $(4x + 5) + (5x + 40) = 180$

10)  $2(4x + 4) = x + 1$

Answer \_\_\_\_\_

Answer \_\_\_\_\_

11)  $3(180 - x) = 2(90 - x)$

12)  $6(x - 2) - 2(x - 7) = 29$

Answer \_\_\_\_\_

Answer \_\_\_\_\_

**Simplify the following:**

13)  $\sqrt{81}$

14)  $\sqrt{36 + 64}$

15)  $\sqrt{36} + \sqrt{64}$

Answer \_\_\_\_\_

Answer \_\_\_\_\_

Answer \_\_\_\_\_

16)  $9\sqrt{40}$

17)  $\sqrt{300}$

18)  $\sqrt{13^3}$

Answer \_\_\_\_\_

Answer \_\_\_\_\_

Answer \_\_\_\_\_

19)  $(\sqrt{21})^2$

20)  $5\sqrt{13}$

21)  $(2\sqrt{3})^2$

Answer\_\_\_\_\_

Answer\_\_\_\_\_

Answer\_\_\_\_\_

22)  $\frac{24}{\sqrt{3}}$

23)  $\frac{\sqrt{28}}{\sqrt{5}}$

24)  $(5\sqrt{6})(4\sqrt{2})$

Answer\_\_\_\_\_

Answer\_\_\_\_\_

Answer\_\_\_\_\_

25)  $12\sqrt{48} - 2\sqrt{27}$

26)  $5\sqrt{50} + 6\sqrt{125} + 7\sqrt{98} - 3\sqrt{20}$

Answer\_\_\_\_\_

Answer\_\_\_\_\_

**Simplify the following:**

26)  $\left(\frac{12}{35}\right)\left(\frac{22}{44}\right)$

27)  $\left(4\frac{2}{3}\right) + \left(2\frac{3}{16}\right)$

28)  $\frac{13}{15} + \frac{11}{30}$

Answer\_\_\_\_\_

Answer\_\_\_\_\_

Answer\_\_\_\_\_

29)  $\left(\frac{13}{2}\right)^2$

30)  $\frac{5xy}{10x^2}$

31)  $\frac{9x - 6y}{3}$

Answer\_\_\_\_\_

Answer\_\_\_\_\_

Answer\_\_\_\_\_

Evaluate each of the following for the indicated values of the variables.  
Express your final answers in simplest form.

32)  $\frac{x+5}{y-2}$  for  $x = -2$  and  $y = -4$

33)  $\frac{1}{3}x^2h$  for  $x = 4\sqrt{3}$  and  $h = 6$

Answer \_\_\_\_\_

Answer \_\_\_\_\_

34)  $\sqrt{(x-5)^2 + (y-3)^2}$  for  $x = 1$  and  $y = 0$

Answer \_\_\_\_\_

Solve each of the following equations for the stated value using the given information.

35)  $A = \frac{1}{2}bh$ . Find  $A$  when  $b = 4$  and  $h = 20$ .

Answer \_\_\_\_\_

36)  $a^2 + b^2 = c^2$ . Find  $c$  when  $a = 15$  and  $b = 20$ .

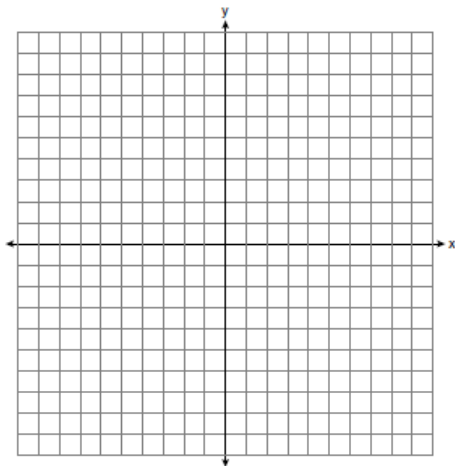
Answer \_\_\_\_\_

37)  $A = \frac{1}{2}h(a + b)$ . Find  $A$  when  $h = 3$ ,  $a = 3\sqrt{2}$ , and  $b = 7\sqrt{2}$ .

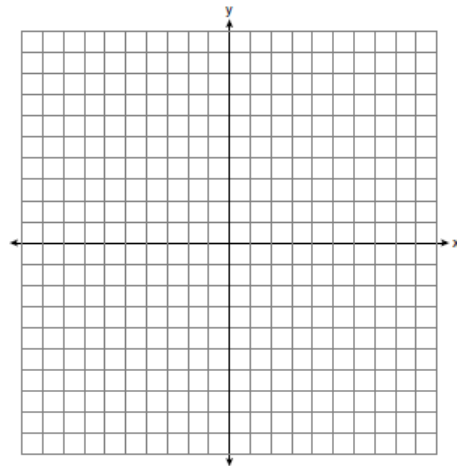
Answer \_\_\_\_\_

Graph each of the following lines. State or label the  $x$  and  $y$  intercepts.

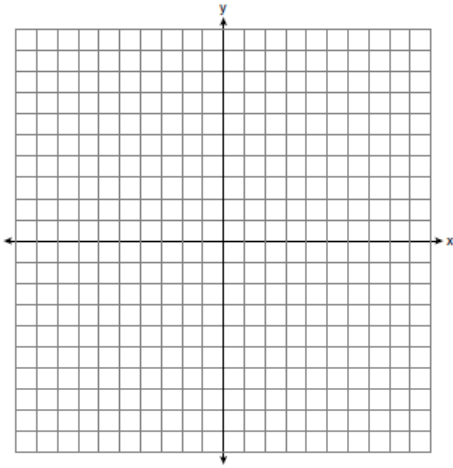
38)  $y = 2x + 3$



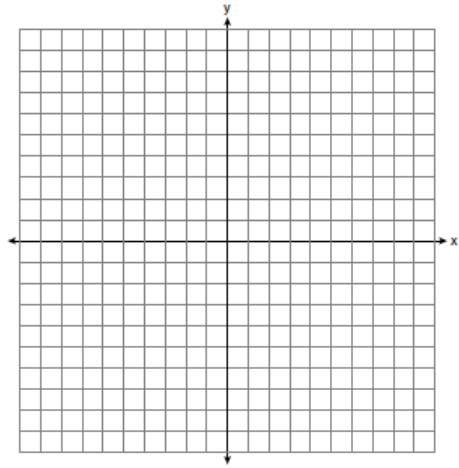
39)  $y = \frac{3}{5}x - 10$



40)  $2x + 3y = 12$



41)  $y = 3$



**Write an equation of the line described in each of the following problems.**

42) The line going through the points  $(-1, -8)$  and  $(-7, 20)$ .

**Answer** \_\_\_\_\_

43) The line that passes through the point  $(3, 9)$  and is parallel to the line  $y = 5x - 15$

**Answer** \_\_\_\_\_

44) The line that passes through the point  $(6, 10)$  and is perpendicular to the line  $y + 2x = 8$ .

**Answer** \_\_\_\_\_

**Solve each system of equations.**

**45)**  $y = 2x + 5$   
 $3x - y = 4$

**46)**  $x = 8 + 3y$   
 $2x - 5y = 8$

**Answer** \_\_\_\_\_

**Answer** \_\_\_\_\_

**47)**  $3x + y = 19$   
 $2x - 5y = -10$

**48)**  $2x + 3y = 4$   
 $5x + 4y = 3$

**Answer** \_\_\_\_\_

**Answer** \_\_\_\_\_