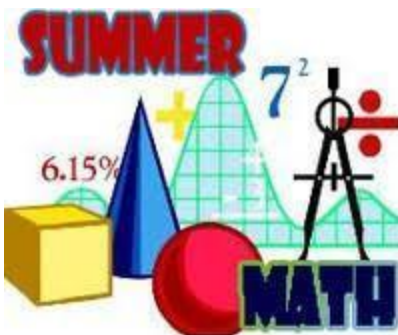


## Geometry – Summer Assignment



Attached is an assignment containing items necessary for you to have mastered to do well in Geometry.

**Please complete the assignment for the class you will begin in September.**

Practicing mathematics skills is especially important over the long summer break, so this summer assignment is meant to be completed over the entire summer, not all at once.

**This assignment must be completed and handed in by the end of the first full week of school.** The packet will be graded for completion as a **formative assessment**. To earn the full points for completion, you must show your work. **No late submissions of the summer assignment will be accepted**; please be prepared to hand it in on time.

Your teacher will review the assignment and may follow up with a formative assessment.

Additional information/resources may be found on your teacher's website.

You may wish to utilize the following online resources:

- [www.khanacademy.com](http://www.khanacademy.com)
- [www.ixl.com](http://www.ixl.com)
- [www.purplemath.com](http://www.purplemath.com)
- [www.math.com](http://www.math.com)

Enjoy your summer!

**Show work in the spaces provided.****(NO CALCULATOR ALLOWED)****Part I: Vocabulary**

Match the definition with a word from the word bank.

Symmetry	Rotation	Scalene	Obtuse
Acute	Isosceles	Translation	Equilateral
Supplementary	Area	Complementary	Reflection
Perimeter	Right	Volume	Angle
Dilation	Pythagorean Theorem		

1. \_\_\_\_\_ The number of square units enclosed by a plane figure.
2. \_\_\_\_\_ An angle whose measure is more than  $90^\circ$ , but less than  $180^\circ$ .
3. \_\_\_\_\_ A formula used to find the missing side of a right triangle.
4. \_\_\_\_\_ A transformation about a point. (turn)
5. \_\_\_\_\_ The distance around a polygon.
6. \_\_\_\_\_ A triangle with no congruent sides or angles.
7. \_\_\_\_\_ Two angles whose sum is  $90^\circ$ .
8. \_\_\_\_\_ A transformation with a line of symmetry. (flip)
9. \_\_\_\_\_ A triangle with at least two congruent sides and angles.
10. \_\_\_\_\_ An angle whose measure is  $90^\circ$ .
11. \_\_\_\_\_ An isometry that maps the figure onto its self.
12. \_\_\_\_\_ An angle whose measure is less than  $90^\circ$ .
13. \_\_\_\_\_ A triangle with three congruent sides and angles.
14. \_\_\_\_\_ A figure formed by rays with a common vertex.
15. \_\_\_\_\_ Two angles whose sum is  $180^\circ$ .
16. \_\_\_\_\_ A transformation that moves points the same distance and in the same direction. (slide)
17. \_\_\_\_\_ The measure of space a figure occupies.
18. \_\_\_\_\_ A transformation with a center and has a scale factor of  $n > 0$ , that is a reduction or an enlargement.

**Part II: Problem Solving**

**Follow** the instructions for each problem. Write your answer in the simplest form in the blank provided.

19. What is the solution to  $5x - 14 + 8x = 7x + 28$  ?

\_\_\_\_\_

20. A bag contains 5 blue marbles, 6 red marbles, and 4 green marbles. You select one marble at random from the bag. What is  $P(\text{blue})$  ?

\_\_\_\_\_

21. You select one red marble from the full bag in Exercise 20. What is the probability that the next marble you select will be green without replacement of the first marble?

\_\_\_\_\_

22. A map has a scale of 1 inch : 20 miles. If two cities are 240 miles apart, how far apart are they on the map ?

\_\_\_\_\_

23. What is the ratio  $0.8 : 3.2$  written in simplest form ?

\_\_\_\_\_

24. What is the slope of a line through  $(-3, 4)$  and  $(5, 6)$  ?

\_\_\_\_\_

25. What is the simplest form of  $\sqrt{24x^7}$  ?

\_\_\_\_\_

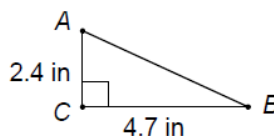
26. What is the solution to  $y - 9 > 4 + 2y$  ?

\_\_\_\_\_

27. What is the value of the expression  $-x(y - 3)^2$  for  $x = -2, y = 6$  ?

\_\_\_\_\_

28. What is the area of  $\triangle ABC$ , to the nearest tenth ?



\_\_\_\_\_

29. A painter leans a ladder against the side of a house that is 3 feet from the base. If the top of the ladder reaches 16 feet, how long is the ladder?

\_\_\_\_\_

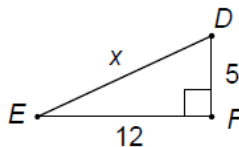
30. What is the solution to  $\frac{5}{8} = \frac{m}{12}$  ?

\_\_\_\_\_

31. What is the solution to  $\frac{3}{8} + \frac{1}{4}$  ?

\_\_\_\_\_

32. What is the value of  $x$  for  $\triangle DEF$  ?

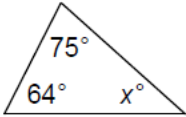


\_\_\_\_\_

33. Simplify: $a^2 \bullet a^4$ _____	34. Simplify: $\frac{a^5 b^8}{a^4 b^{10}}$ _____
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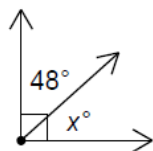
## Part II: Problem Solving

**Follow** the instructions for each problem. Write your answer in the simplest form in the blank provided.

35. What is the equation of the line that is parallel to $y = 4x + 3$ and passes through the point (2, 6) ? _____	36. What is the solution to $x + 3 = -6$ ? _____
37. What is the slope of the equation ? $y = \frac{-3}{4}x + 2$ _____	38. What is the solution to $2(x - 6) = 14$ ? _____
39. Simplify: $-13 + 12 \div (-4) + 2$ _____	40. Simplify: $8(2x - 2)$ _____
41. What is the simplest form of $\sqrt{20}$ ? _____	42. Simplify: $7x - 3 + 4y - 8 + 5x - 6y$ _____
43. What is the value of $x$ in the triangle below?  _____	44. What is the solution to $-2y + 8 \leq 20$ ? _____
45. Simplify the algebraic expression below: $15 + 5(2x - 3)$ _____	46. What is the perimeter of a rectangle with length 20 in. and width 12 in. ? _____

47.

What is the value of  $x$  below ?



48.

Simplify the algebraic expression below:

$$(2x^2 - 4x + 6) - (3x^2 + 5x - 9)$$

\_\_\_\_\_

49. What is 50% written as a fraction in lowest terms ?

\_\_\_\_\_

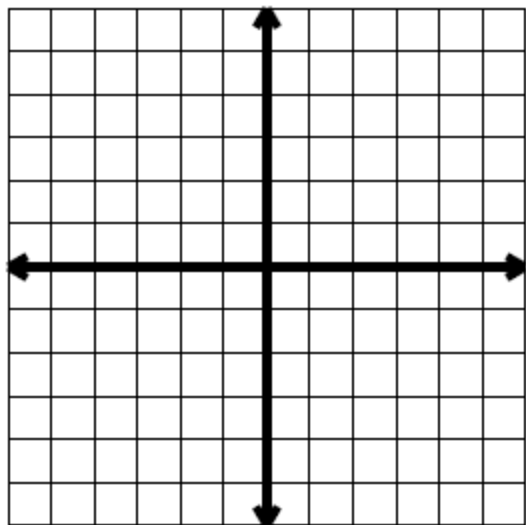
50. What is 25% of 20 ?

\_\_\_\_\_

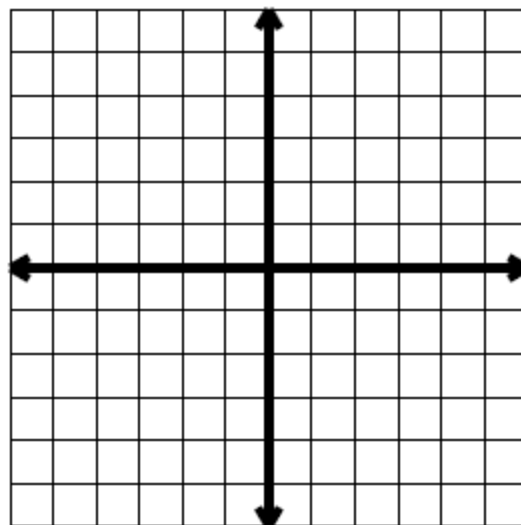
### Part III: Graphs

Follow the instructions for each problem.

51. Graph the equation:  $y = \frac{3}{4}x - 3$

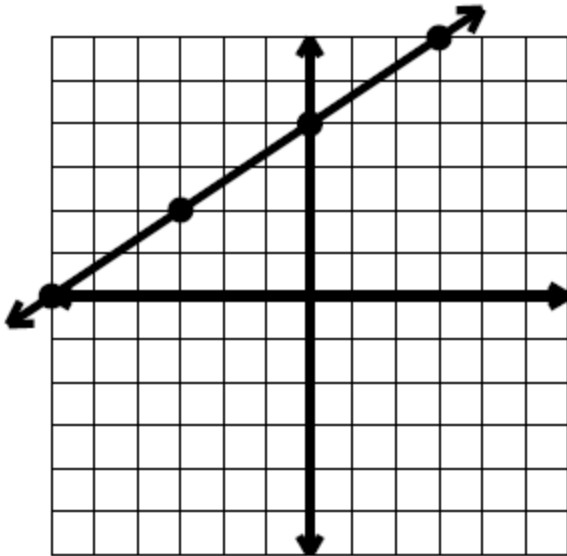


52. Graph the equation:  $3y - 5x = -12$



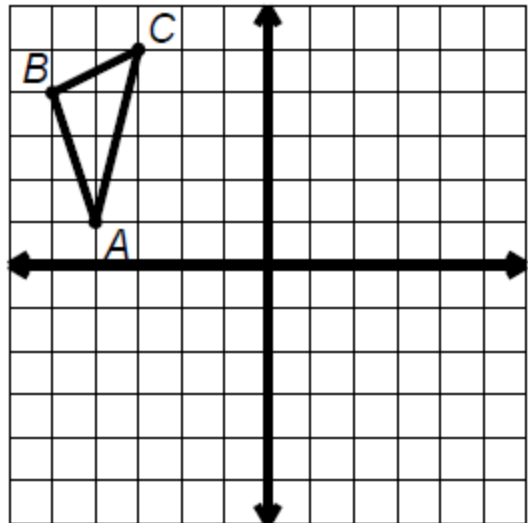
53.

Write the equation of the line from the graph.

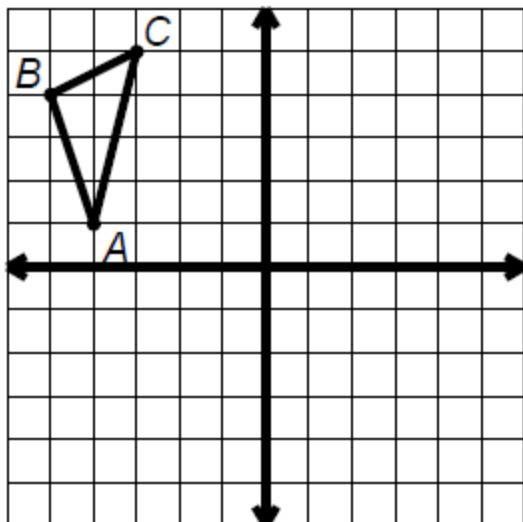


54.

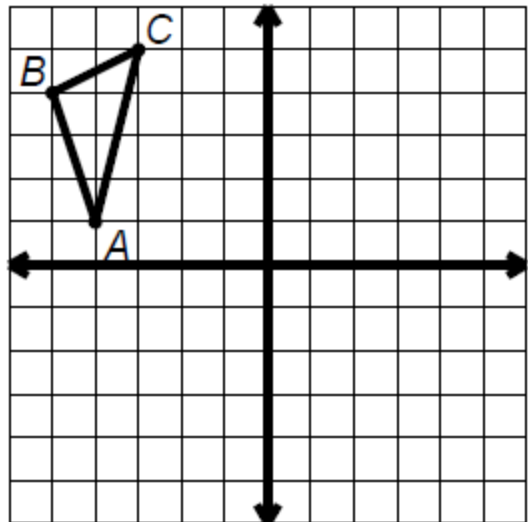
Graph the reflection of  $\triangle ABC$  after a reflection over the  $x$ -axis.



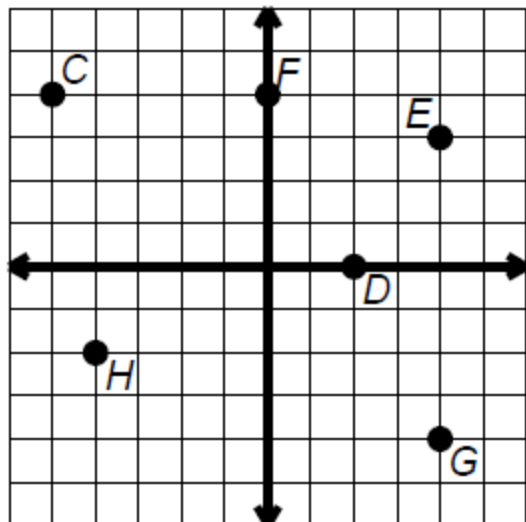
55. Graph the reflection of  $\triangle ABC$  after a reflection over the  $y$ -axis.



56. Graph  $\triangle ABC$  after a translation by the rule  $(x, y) \rightarrow (x + 4, y - 3)$



57. List the ordered pairs for each point.



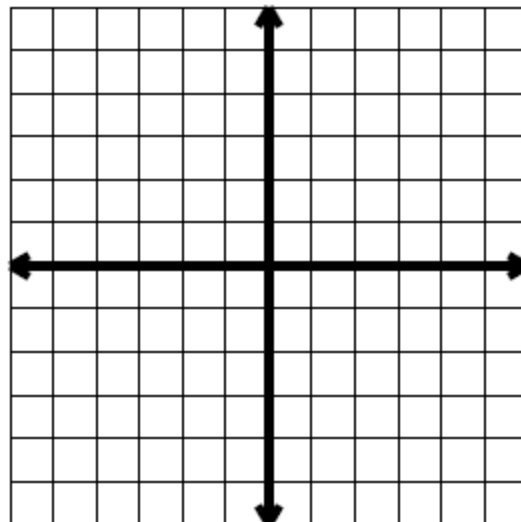
58. Graph each ordered pair and identify the quadrant the point is in.

A (-4, 5)

B (3, -2)

C (-5, -4)

D (2, 3)



**(extra work space)**

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