



# THE MASTER'S SCHOOL

## Geometry/Honors Geometry *Mrs. Swenson*

Students who will be taking Geometry or Honors Geometry in the upcoming school year are required to complete the attached summer work before the first day of school.

Students are to bring their completed answer sheet to school with them on the second day of school.

This work serves two purposes: it helps students to remember the concepts that they have learned in the past and allows an assessment of topics that need focused review.

This work is necessary to assess the ability of incoming students and to guide the instruction in the first few weeks of classes.

This work should be done during the two weeks before school begins.

### Supply List

TI-84 Graphing calculator (do not get TI-Nspire or TI-89)

Looseleaf notebook with lined paper and graphing paper

Red pen (for marking homework assignments)

In addition - Geometry students will need protractor and compass

Any questions - contact Mrs. Swenson at [nswenson@masterschool.org](mailto:nswenson@masterschool.org).

## GEOMETRY SUMMER WORK

Find the value for each expression:

1.  $|8|$

2.  $|-157|$

3.  $(2 + 3)^2$

4.  $2 + 3^2$

5.  $2 - |-4|$

6.  $|2 - (-4)|$

7.  $[9 \div 3 - (5 \times 3)^2] + 2$

List all of the sets of numbers – natural numbers, whole numbers, integers, rational numbers, irrational numbers, real numbers - to which each of the given numbers belong:

8.  $-156$

9.  $0.\bar{3}$

10.  $150,000$

11. If \$4.50 will buy 3 tickets, how many tickets can be bought with \$18.00?

12. It takes about 3 pounds of lye to make 100 bars of soap. How many pounds of lye would it take to make 70 bars of soap?

13. A manufacturer makes widgets. Each widget costs \$12.50 to make. The sale price of each widget is 50% greater than the cost to make it. What is the sale price of each widget?

14. A pair of shoes costs \$120.00. A store reduces the price by 40%. What is the new price of the shoes?

15. The store in question 14 offers customers 10% off of the reduced price if they trade in an old pair of shoes. What is the price of the shoes after the 40% reduction and the 10% discount?

Round each number to the given place:

16. 1.45974763 to the nearest tenth

17. 32,897 to the nearest hundred

18. 516,201.721 to the nearest whole

19. 0.0099909 to the nearest hundredth

Evaluate each expression – do not use a calculator!

20.  $2^5$

21.  $3^{-2}$

22.  $\sqrt{16}$

23.  $\sqrt[3]{27}$

24.  $5^{-3}$

25.  $\sqrt[3]{8}$

Rewrite each number in scientific notation:

26. 78,000

27. 78,000.1

28. 78,000.10

29. 0.078001

Convert as directed. Use the following conversions:

100 cm = 1 m

1000 m = 1 km

12 in = 1 ft

3 ft = 1 yd

1760 yds = 1 mile

30. Convert 10 yards into inches

31. Convert 24 cm into meters

32. Convert 1240 inches into miles

33. Convert 120 miles into yards

34. Convert 400 m into kilometers

35. Convert 2 km into centimeters

36. Find the median of the following set: 8,  $\frac{1}{2}$ , 4, 0.4, 200,  $\pi$ , 0, 2, 3.

37. Find the mean of the following set: 12, 2, 7, 15, 9, 1, 8, 2.

38. Find the mode of the following: square, circle, cube, square, cylinder, cone, square.

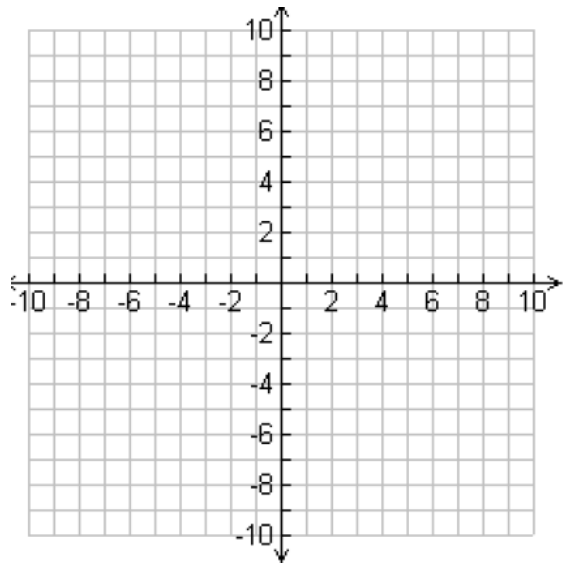
39. A bag contains 12 marbles. Half of the marbles are black, and half of the remaining marbles are yellow. If two marbles are taken out of the bag, what is the probability that neither marble is black?

40. A number cube is rolled twice. What is the probability that 3 is rolled both times?

41. A spinner is divided into eight equal regions, numbered 1 through 8. Shelby spins twice. What is the probability that she does not get a 4 on either spin?

42. On the graph shown, graph and label each of these points:

A (3, 6)      B (2, -4)      C (-3, -1)      D. (-4, 7)



Evaluate each expression for the given value of the variables:

43.  $4x^2 - 3$ , for  $x = 2$       44.  $3(a + 2b)$ , for  $a = -2$  and  $b = 5$       45.  $4r - 3$ , for  $r = 1.5$

46.  $\frac{9}{2y+3}$ , for  $y = -2$       47.  $\frac{3p+p^2}{p}$ , for  $p = -3$       48.  $mn + 3m$ , for  $m = 2$  and  $n = 6$

Solve each equation:

49.  $46 - 3h = 7$

50.  $\frac{2-x}{2} = x$

Multiply the binomials:

51.  $(x - 5)(x + 3)$

52.  $(2x - 5)(1 - x)$

Factor the trinomials:

53.  $x^2 + 4x + 3$

54.  $x^2 - 3x - 18$

Rewrite each equation in slope-intercept form ( $y = mx + b$ )

55.  $4x + 5y = 13$

56.  $2x + 2y = 6$

Solve each problem:

57. Manuela has \$19.50 that she plans to use to buy prizes for her school carnival. Each prize costs \$3.20. There is also a 5% sales tax on each item. How many prizes can she buy?

58. Alicia is 5 feet tall. In a photograph of Alicia and her younger brother, she is pictured 2 inches tall, and her brother is 1.8 inches tall. Using this ratio, how tall is Alicia's brother?

59. Hoon paid \$16 for a meal at a restaurant, and tipped his server exactly 15%. How much change will Hoon receive if he paid with a \$20 bill?

50. If you spin a spinner twice, and it has 9 equal sections on it, each numbered 1 through 9, what is the probability that you will get an odd number on both spins?

## GEOMETRY ANSWERS

1. \_\_\_\_\_

12. \_\_\_\_\_

23. \_\_\_\_\_

2. \_\_\_\_\_

13. \_\_\_\_\_

24. \_\_\_\_\_

3. \_\_\_\_\_

14. \_\_\_\_\_

25. \_\_\_\_\_

4. \_\_\_\_\_

15. \_\_\_\_\_

26. \_\_\_\_\_

5. \_\_\_\_\_

16. \_\_\_\_\_

27. \_\_\_\_\_

6. \_\_\_\_\_

17. \_\_\_\_\_

28. \_\_\_\_\_

7. \_\_\_\_\_

18. \_\_\_\_\_

29. \_\_\_\_\_

8. \_\_\_\_\_

19. \_\_\_\_\_

30. \_\_\_\_\_

9. \_\_\_\_\_

20. \_\_\_\_\_

31. \_\_\_\_\_

10. \_\_\_\_\_

21. \_\_\_\_\_

32. \_\_\_\_\_

11. \_\_\_\_\_

22. \_\_\_\_\_

33. \_\_\_\_\_

34. \_\_\_\_\_

45. \_\_\_\_\_

56. \_\_\_\_\_

35. \_\_\_\_\_

46. \_\_\_\_\_

57. \_\_\_\_\_

36. \_\_\_\_\_

47. \_\_\_\_\_

58. \_\_\_\_\_

37. \_\_\_\_\_

48. \_\_\_\_\_

59. \_\_\_\_\_

38. \_\_\_\_\_

49. \_\_\_\_\_

60. \_\_\_\_\_

39. \_\_\_\_\_

50. \_\_\_\_\_

40. \_\_\_\_\_

51. \_\_\_\_\_

41. \_\_\_\_\_

52. \_\_\_\_\_

42. graph

53. \_\_\_\_\_

43. \_\_\_\_\_

54. \_\_\_\_\_

44. \_\_\_\_\_

55. \_\_\_\_\_