

## **MATH SUMMER ASSIGNMENT GEOMETRY**

Mathematics is foundational and it is crucial that students maintain certain skills and conceptual understandings to be able to succeed in future mathematics courses. It is for this reason that we have developed numerous summer assignments that are designed to help students review, refresh, and improve upon **prerequisite skills** to prepare for future courses.

This year, we are requiring students to complete summer assignments to ensure that they are prepared for the year. The assignments were designed by content teachers to help students be better prepared for math work in the fall. Students will be given time in class to clarify questions, practice concepts and will be assessed during the first week of school.

**For College Geometry, the summer assignment will be due the first week of class and graded as a homework assignment.**

**For Honors Geometry, the summer assignment will be due the first week of class and graded as a formative assessment.**

Name: \_\_\_\_\_

## Geometry Summer Assignment

- If you are taking **HONORS** next year, complete all problems
- If you are taking **COLLEGE** next year, complete problems 1-10
- Place your answers for each question in the answer grid below
- Leave all answers in simplified fractions unless otherwise specified

**Answer Grid**

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 1a. | 1b. | 2a. | 2b. | 3.  |
| 4.  |     | 5.  |     | 6.  |
| 7.  |     | 8.  |     | 9.  |
| 10. |     | 11. |     | 12. |
| 13. |     | 14. |     | 15. |

**Show all work in the space provided. Do not hand in any other papers.**

*For questions 1 and 2, find the output of the function from the given input.*

1.  $f(x) = \frac{2}{3}x - 5$

a. Find  $f(-\frac{3}{4})$

b. Find  $f(13)$

2.  $f(x) = 28x + \frac{1}{2}$

a. Find  $f(\frac{22}{7})$

b. Find  $f(8)$

*For questions 3-7, use the formulas provided on the formula sheet on the last page.*

3. Area of a trapezoid where  $h = 6, b_1 = 3\frac{1}{2}, b_2 = 5$

4. Area of a rhombus where  $d_1 = 12\frac{2}{3}, d_2 = 4$

5. Perimeter of an equilateral triangle where  $side = 10\frac{5}{6}$

6. Volume of a sphere where  $r = 1\frac{1}{2}$ . Use  $\pi = 3.14$  and round to the nearest hundredth.

7. Volume of a right circular cone where  $r = \frac{9}{2}$ ,  $h = 12$ . Use  $\pi = 3.14$  and round to the nearest hundredth.

*For problems 8 and 9, solve for  $x$ .*

8.  $\frac{5}{x-9} = \frac{8}{x+5}$

9.  $\frac{-4x}{18} = \frac{-2}{x}$

*For problems 10 and 11, use the Pythagorean Theorem, which can be found on the formula sheet.*

10. Find  $c$  when  $a = \frac{3}{4}$  and  $b = 1$

11. Find  $a$  when  $b = 6$  and  $c = \frac{13}{2}$

*For problems 12-15, solve each formula for the indicated variable.*

12.  $A = \frac{1}{2}bh$  for  $b$

13.  $V = \pi r^2 h$  for  $h$

14.  $V = s^3$  for  $s$

15.  $V = \frac{4}{3}\pi r^3$  for  $r$

### Formula Sheet

Area of a Trapezoid:

$$A = \frac{1}{2}(b_1 + b_2) * h$$

Area of a Rhombus:

$$A = \frac{1}{2}(d_1 * d_2)$$

Volume of a Sphere:

$$V = \frac{4}{3}\pi r^3$$

Volume of a Right Circular Cone:

$$V = \frac{1}{3}\pi r^2 h$$

Pythagorean Theorem:

$$a^2 + b^2 = c^2$$