

Summer Assignment for Gunderson Geometry Students

This summer assignment is given to help you have a successful year in Geometry. Your summer assignment is to complete each problem following the directions below. You will be asked for your completed assignment on the first day of school.

- Work the problems on 8 ½” x 11” lined or grid binder paper.
- Head each of your pages as shown here:

Geometry Summer Assignment
Print date

Print first name, last name
Period # of your math class

- Label the beginning of each problem with its number; work the problems in order.
- Circle the number of each problem.
- Put a box around each of your answers where possible.
- You may use the back of the page if you wish.
- Show your work/steps on every problem that is not a fill-in-the-blank problem.
- You will be asked for your completed assignment on Friday of the first week of school.
- Late work must be made up for credit.
- If you do not understand how to work a problem, copy the problem onto your paper and leave space to work the problem when your teacher explains the problem in class.
- Do not skip problems. You should have something written for every problem assigned. Your teacher will help you with the problems that trouble you.
- After several days, you should expect a quiz covering the topics on the summer assignment.

Geometry Summer Assignment

PLEASE FOLLOW DIRECTIONS GIVEN FOR SUMMER ASSIGNMENTS

1. Simplify.

a. $-\frac{1}{3} + \left(-\frac{3}{4}\right)$

b. $-75 + 48$

c. $-1 - (-1)$

d. $\frac{1}{2} - \left(-\frac{1}{2}\right)$

2. Evaluate each expression:

a. $\frac{2-9}{8-8^2}$

b. $[(1-7)^2 + 4] \div 8$

3. Evaluate each expression when $x = -4$ and $y = 3$.

a. $xy \div (x + y)$

b. $5(2y - x)$

c. $-2x^2 + y^2$

d. $-2(x + 4y)^2$

e. $\frac{x+2}{x-2}$

4. Use the distributive property to rewrite each expression without parentheses.

a. $7(-x^2 + 3x - 2)$

b. $-\frac{2}{3}x(6x + 9y - 12)$

5. Simplify each expression: a. $-m + 4 + 7m$

b. $6x - 9x + x$

6. Find the reciprocal of each number.

a. $-\frac{1}{10}$

b. 1

c. $\frac{6}{13}$

d. -1

e. 0.2

7. Simplify each ratio:

a. $\frac{40\text{kilometers}}{500\text{meters}}$

b. $\frac{5\text{miles}}{6200\text{feet}}$

8. Find the ratio of girls to boys in a class, given the number of boys and the total number of students in the class.

a. 15 boys, 28 students

b. 12 boys, 27 students

c. 12 boys, 20 students

9. Solve each equation. Write your answer in simplest terms.

a. $t - \frac{1}{8} = \frac{5}{8}$

b. $\frac{9}{2}x = -1$

c. $120 = -120b$

d. $0 = 6.4k$

e. $\frac{3+m}{2} = 5$

f. $4(t-7) + 6 = 30$

g. $85 = 0.5(226 - x)$

h. $12 - 23c = 7(9 - c)$

i. $7(4h + 1) - 2(2h - 3) = -23$

10. Solve each inequality.

a. $x + 3x > 2x + 6$

b. $(x + 4) + (x + 6) > 3x - 1$

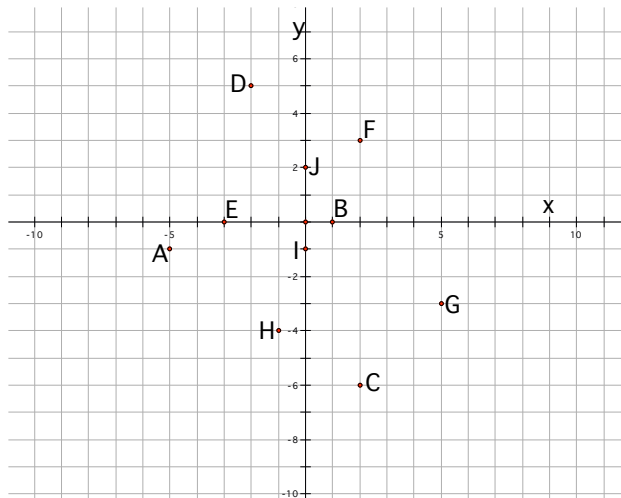
c. $(2x - 1) + (x + 3) > 18 - x$

11. Check whether the given number is a solution of the inequality.

a. $m + 12 > 30$; 16

b. $n - 3 < 6$; 2

12. Give the coordinates of each labeled point on the graph. (Scale: 1 space = 1 unit)



13. Use a table of values to graph each equation: a. $x - 3y = 6$ b. $y = \frac{3}{2}(x + 1)$

14. Use the x-intercept and the y-intercept to graph the equation. Label the points where the line crosses the coordinate axes.

a. $x + 5y = -10$

b. $-5x + 6y = 30$

15. Use the slope and the y-intercept to graph each equation.

a. $y = \frac{1}{2}x + 4$

b. $0.25y = 3$

c. $-y - 3x = 4$

d. $2x = 6 - 3y$

16. Graph the equation $x = -2$. Explain why the graph has no slope and no y-intercept.

17. Write an equation in slope-intercept form of the line that passes through the given point and has the given slope.

a. $(3, -11)$, $m = 0$

b. $(0.5, -1.5)$, $m = 2$

18. Write an equation in slope-intercept form of the line that passes through the given points.

a. $(1, 3), (7, 4)$

b. $(0, -3), (-5, 0)$

19. Use substitution to solve each system of linear equations.

a. $x - 0.5y = 6$
 $0.5x + 0.2y = 8$

b. $3x + y = 6$
 $5(x + y) = 22$

20. Use linear combinations (multiply/add/subtract) to solve each system of linear equations.

a. $4x - 5y = 18$
 $3x + 10y = -3$

b. $7x + y = 8.5$
 $-4x - 3y = 0$

21. Simplify each expression so that the answer has no negative exponents.

a. $\frac{2x^0}{8y^{-7}}$

b. $(2a^{-2}bc^3)^{-1}$

c. $\left(\frac{r}{3s}\right)^{-3}$

d. $(5ab^3)^2 \cdot (-7b^2c)$

e. $w^5 \cdot \left(\frac{7}{w^4}\right)^2$

f. $4y^3z \cdot \left(\frac{y}{2z}\right)^{-3}$

22. Multiply.

a. $(5d + 3)(d - 2)$

b. $(2f - 4)(2f + 4)$

c. $(1 - 2g)(g + 3)$

d. $(6h + 3k)(h + k)$

e. $(y + 12)^2$

f. $(15 - x)^2$

23. Find all square roots.

a. $\frac{49}{81}$

b. $\frac{7}{100}$

24. Simplify completely.

a. $\sqrt{36 + 64}$

b. $\sqrt{16 + 16}$

c. $-\sqrt{0}$

d. $-\sqrt{196}$

e. $\frac{\sqrt{147}}{\sqrt{3}}$

f. $\frac{\sqrt{20}}{\sqrt{500}}$

g. $\frac{4}{\sqrt{3}}$

h. $\frac{5}{\sqrt{20}}$

25. Solve each equation or write no solution. Leave solution in simplest radical form.

a. $4x^2 = 0$

b. $x^2 = -9$

c. $(x + 1)^2 = 27 + x^2$

d. $(x + 4)^2 = (x - 4)^2 + 96$

26. Use the quadratic formula to solve each equation. Leave answer in simplest radical form.

a. $3x^2 + 6x + 2 = 0$ b. $5y^2 = 1 + 5y$ c. $4x^2 - 3x = 7$

27. Solve the quadratic equation $x^2 - 3x + 2 = 0$. Then graph the function $y = x^2 - 3x + 2$ in a coordinate plane. Describe the relationship between the solutions of the quadratic equation and the x-intercepts of the graph.

28. Solve each formula for the indicated variable.

- a. $S = (n - 2)180$. Solve for n b. $S = 2lw + 2lh + 2wh$. Solve for h.
 c. $S = 2\pi r^2 + \pi rh$. Solve for h. d. $S = \pi r^2 + \pi rl$. Solve for l.
 e. $A = \frac{1}{2}hb_1 + \frac{1}{2}hb_2$. Solve for h. f. $3x + y = 9$. Solve for y.

29. Find the perimeter (or circumference) and area of each figure. Where necessary, leave your answers in terms of π . Use the formulas shown below as needed. *Note: Drawings not to scale.*
(See more drawings on the back)

Square:

$P = 4s$

$A = s^2$

Rectangle:

$P = 2l + 2w$

$A = lw$

Triangle:

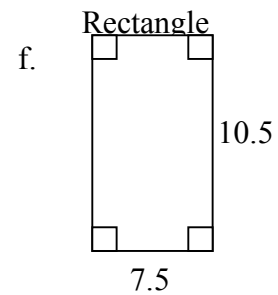
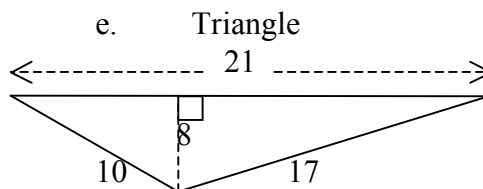
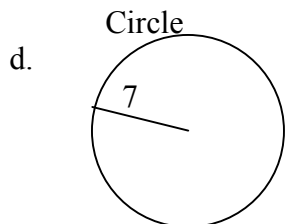
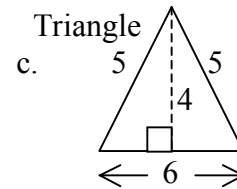
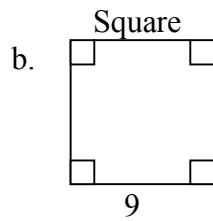
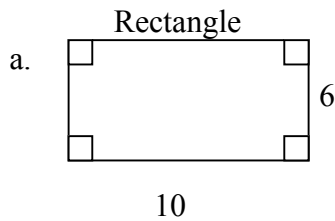
$P = a + b + c$

$A = \frac{1}{2}bh$

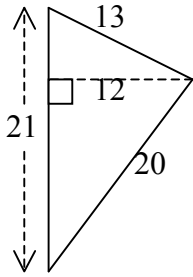
Circle:

$C = 2\pi r$

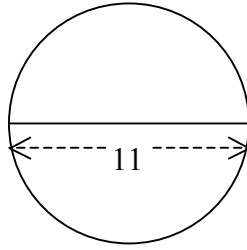
$A = \pi r^2$



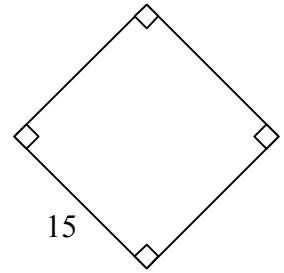
g. Triangle



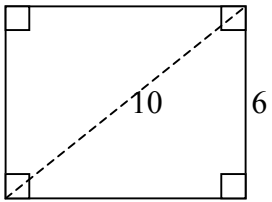
h. Circle



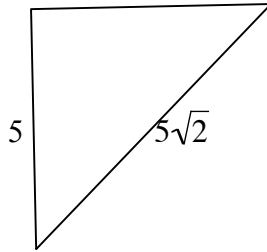
i. Square



j. Rectangle



k. Isosceles Right Triangle



l. Circle (semi-circle)

