

Summer Assignment for All Gunderson Algebra 2 Students

This summer assignment is given to help you have a successful year in Algebra 2 or Algebra 2 with Trig. 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:

Alg. 2 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.
- 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 still 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.

PLEASE FOLLOW DIRECTIONS GIVEN FOR SUMMER ASSIGNMENTS

1. Write the correct symbol, =, <, or >.

a. -8.09 ___ -8.11 b. -0.001 ___ $-\frac{1}{1000}$ c. $-\frac{2}{7}$ ___ $\frac{6}{7}$

2. Simplify completely.

a. $3.8 + (-3.8)$ b. $-4.8 + 1.2$ c. $-\frac{3}{8} + \left(-\frac{1}{6}\right)$ d. $8 - (-5)$

e. $-18.2 - 4.7$ f. $-\frac{2}{3} - \left(-\frac{4}{7}\right)$ e. $3 \cdot (-8)$ f. $-4.7 \cdot 10$

g. $-8 \cdot \left(-\frac{3}{4}\right)$ h. $x + 3x - 5x$ i. $2y + 3 + 5y - 1$

3. Factor or multiply as indicated.

a. $3x - 18$ b. $5x - 10y + 15$ c. $4x - 8 + 6y$ d. $12ab + 4ac - 16ad$

e. $5(y - 4)$ f. $a(2 - b)$ g. $c(x + y - z)$ d. $-3(x - y + 1)$

4. Evaluate each expression when $x = -2$, $y = 3$, and $z = -4$.

a. $y - xz$ b. $3x + 2y - z$

5. Solve.

a. $x + 8 = -12$ b. $3x = 21$ c. $4x - 5 = 11$ d. $9x - 2x = 21$

e. $7x - 4 + 2x = -8 - 3x + 6$ f. $r + \frac{5}{6} = -\frac{3}{12}$ g. $5t = -12$

h. $\frac{2}{3}x = 16$ i. $-4y - 3y = 28$ j. $8 - 5x = x - 14$ k. $8a = 3(a + 5)$

l. $x + 2 < 6$ m. $y - 8 \geq 0$ n. $4y \leq -8$ o. $-5x > 10$

p. $3x - 1 > 8$ q. $2 + 7y \leq 3$ r. $4y - 1 < y + 2$ s. $x - 6 \geq 3x - 10$

6. Find the additive inverse of each number.

- a. -8 b. 7 c. $\frac{3}{4}$ d. 0

7. Graph each equation on a separate coordinate plane.

- a. $y - 3x = 2$ b. $2y = 3x + 2$ c. $\frac{1}{2}x = 4y - 3$
d. $4y - 4 = 2x$ e. $2y + 4 = 3x$ f. $y = -1$

8. Solve.

- a. $3y - 1 > y - 3$ b. $2x - 3 > 5$ c. $-7 \leq 2x - 7 < 7$ d. $|x + 2| \leq 6$

9. Determine whether the lines are parallel: $\frac{1}{2}x - 5y = 3$ and $-2x + 10 = 1$

10. Remove parentheses where appropriate and simplify completely.

- a. $3x - (2x + 4)$ b. $7y - 2 - (8y - 4)$ c. $3^{-2} \cdot 3^5$ d. $(4a^7b^{-2})(2a^2b^3)$
e. $(8x^{-3}y^4)(3x^{-9}y^{-2})$ f. $(3x)^2$ g. $(-2y)^3$ h. $(2^{-3})^4$ i. $(x^{-2})^{-4}$

11. Solve. a. $(x - 3)(x + 5) = 0$ b. $3x(2x + 10) = 0$

12. Simplify completely.

- a. $\frac{2}{3} \div \frac{3}{4}$ b. $-\frac{7}{3} \div \frac{1}{2}$ c. $\frac{3}{4} \div \left(-\frac{1}{4}\right)$
d. $(7x^3y^{-2})(2x^{-2}y^4)$ e. $\frac{10x^5y^2}{2xy^4}$ f. $(2x^2y^{-4}z^3)^4$

13. Evaluate $xy - xz$ for $x = 3, y = -2, z = 4$.

14. Factor.

- a. $4x + 4y$ b. $3y + 6$ c. $cx - cr + cw$

15. a. Solve for a: $8 - 3(a - 1) = 2 + 4(3 - a)$ b. Solve $E = mc^2$ for m.

16. Simplify.

a. $|-8|$

b. $|0|$

c. $|\sqrt{3}|$

d. $y^7 \cdot y^3$

e. $8^3 \cdot 8^{-2}$

f. $(3x^2y^{-4})(4x^3y^2)$

g. $\frac{4^8}{4^2}$

h. $\frac{3^{-4}}{3^{-6}}$

i. $\frac{32x^3y^{10}}{4x^4y^4}$

j. $(4^2)^4$

k. $(a^{-3})^{-4}$

l. $(4xy^{-3})^3$ m. $(10x^3y^{-2}z^{-4})^2$

17. Solve.

a. $2(8 - 3x) = 3 - 5(x - 1)$

b. $9x + 7 - 2x = -12 - 4x + 5$

c. $(x - 5)(x + 3) = 0$

d. $(x + 5)(x - 7) = 0$

18. Multiply or factor as indicated.

a. $(2 - 3y)(1 + 4y)$

b. $(3x + 8)^2$

c. $(2x - 3)(2x + 3)$

d. $x^2 - 1$

e. $16x^4 - 40x^2y^4 + 25x^8$

f. $-27x^2 + 36x - 12$

g. $x^2 - 13x + 36$

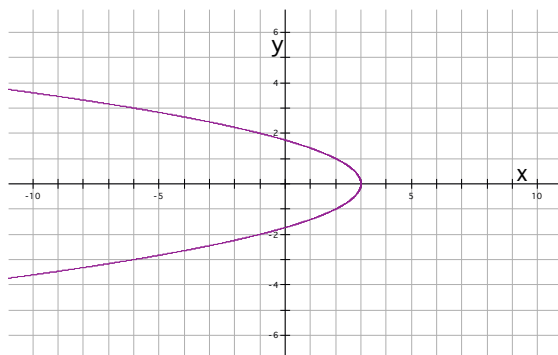
19. Graph.

a. $2y = \frac{1}{3}x - 1$

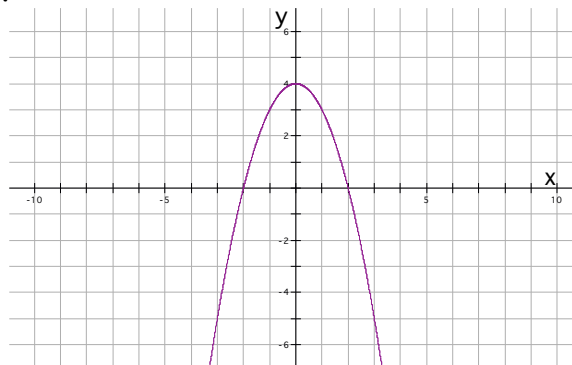
b. $y = -2x + 3$

20. Tell whether each graph is the graph of a function.

a.



b.



21. Find the x- and y-intercepts of each.

a. $2x - 5y = 10$

b. $3x + y = 6$

c. $-4x + 3y = 12$

d. $-x + 2y = 4$

e. $3x + 5y = 10$

f. $x - 7y = 4$

22. Solve by completing the square.

a. $x^2 - \frac{2}{3}x - \frac{1}{3} = 0$

b. $x^2 + 2x - 6 = 0$

23. Simplify.

a. $\sqrt{169}$

b. $\sqrt{48}$

24. Complete the square.

a. $x^2 - 4x$

b. $x^2 + 3x$

25. Graph.

a. $y = 3x - 1$

b. $y = 3x^2$

26. Solve.

a.
$$\begin{aligned} 6x + 3y &= -12 \\ 2x - y &= 6 \end{aligned}$$

b.
$$\begin{aligned} 3x - 5y &= 44 \\ y &= 4x - 2 \end{aligned}$$

c. $x^2 - 9x + 14 = 0$

d. $x^2 = 5$