

ALGEBRA ANITICS

MindWare's Best Number Problems



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Introduction

If you or your students are looking for an exciting, fun way to practice beginning algebra, you've found it! Every puzzle page in ALGEBRA ANTICS has an intriguing picture coded into the grid just waiting to be discovered. Each problem that's successfully solved provides a clue for drawing another line and gradually reveals the entire picture. It's a stimulating way to motivate students and make them eager to work one problem after another until the puzzle is complete.

In addition to providing practice with whatever algebra skill is being addressed on a particular page, the puzzles also help students become proficient with graphing ordered pairs on the x- and y-axes.

On the following page is a list of the algebra concepts addressed by individual puzzles. Puzzles which do not require students to have knowledge of negative numbers have been indicated by an asterisk. Puzzle answers are at the end of the book.

After students have completed a puzzle picture with pencil, they may want to trace over it with a marker so that it shows up better against the background lines.

We hope this book serves as a helpful resource for you and that you and the students you know have great fun with the puzzles. We've enjoyed creating them for you.

Evelyn and Susan

Dedication:

This book is dedicated to Mike, a cherished new member of our family, and to God, our refuge and strength.

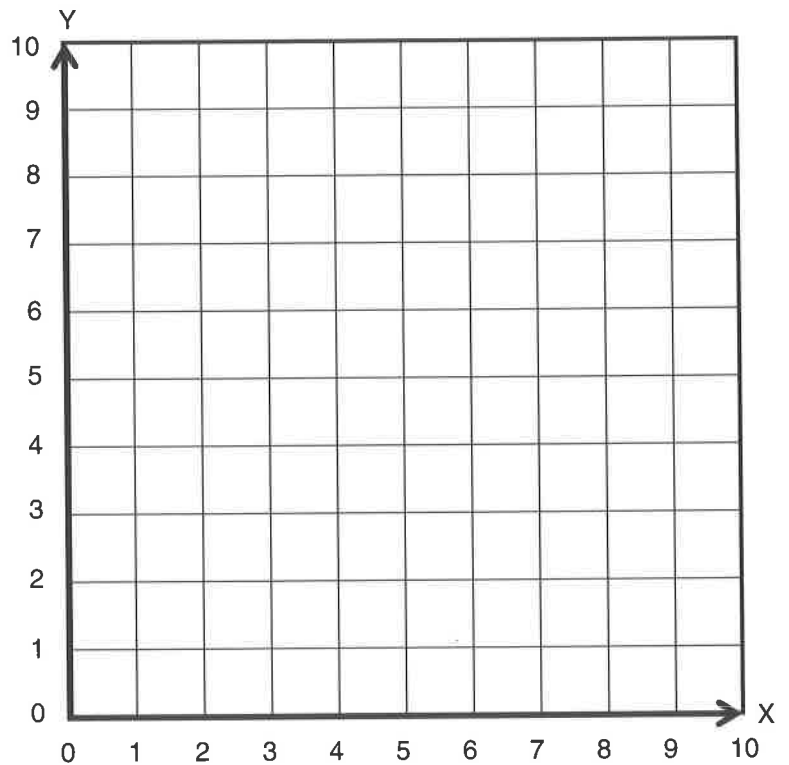
Author notes:

Susan graduated from Swarthmore College with a BA in Linguistics and a BS in Engineering. She has received her MS in Biomedical Engineering at Duke University and is completing her PhD. *Algebra Antics* is the seventh puzzle book she has co-authored.

Evelyn has a master's degree in mathematics and a doctoral degree in mathematics education. She has taught at the elementary, middle school, high school, college, and graduate school levels. She is currently teaching gifted education at the primary level. As a parent of four, she has had much experience providing children with stimulating educational activities, not only in the classroom, but also in the home. She is the author of more than 30 educational puzzle books and has designed several math games.

ALGEBRA ANTICS #1

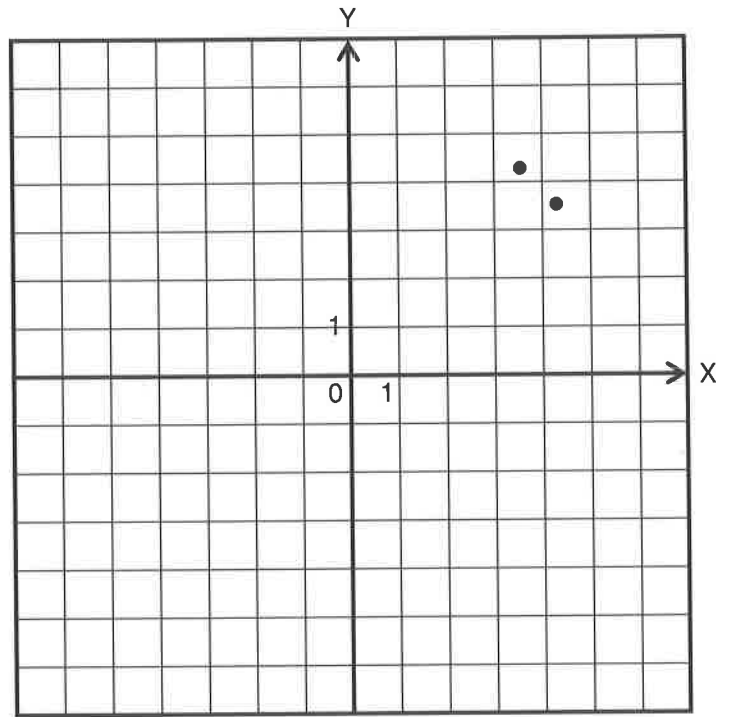
Find the value for each expression. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



- | | | |
|---|--|--|
| 1. $3(2) + 2 =$ (5, <u> </u>) | 9. $\frac{19 + 9}{15 - 8} =$ (<u> </u> , 9) | 17. $6(8) - 5(3)(3) =$ (6, <u> </u>) |
| 2. $1 + 3(9 - 7) =$ (<u> </u> , 6) | 10. $(3 + 2)(8 - 6) =$ (1, <u> </u>) | 18. $2(3) + \frac{18}{6} =$ (<u> </u> , 2) |
| 3. $14 - (5 + 3) =$ (<u> </u> , 5) | 11. $2(9) - (4 + 7) =$ (2, <u> </u>) | 19. $(2 + 2)(9 - 7) =$ (<u> </u> , 5) |
| 4. $\frac{18 + 17}{3 + 4} =$ (<u> </u> , 4) | 12. $7(7) - 6(8) =$ (<u> </u> , 6) | 20. $\frac{5(7) + 1}{8 - 2(2)} =$ (<u> </u> , 6) |
| 5. $4(5) - 7(2) =$ (3, <u> </u>) | 13. $\frac{8(3) + 6}{3(2)} =$ (2, <u> </u>) | 21. $5(5) - 2(9) =$ (8, <u> </u>) |
| 6. $\frac{6(6)}{2 + 7} =$ (<u> </u> , 7) | 14. $2[16 - 3(5)] =$ (1, <u> </u>) | 22. $3(22 - 19) =$ (<u> </u> , 10) |
| 7. $\frac{8 + 64}{(3)(3)} =$ (5, <u> </u>) | 15. $\frac{4(9 + 3)}{3(3 + 1)} =$ (<u> </u> , 3) | 23. $23 - (9 + 8) =$ (<u> </u> , 9) |
| 8. $2(6 + 1) - 4 =$ (5, <u> </u>) | 16. $8(7) - 6(9) =$ (5, <u> </u>) | 24. $5[3(9) - 5(5)] =$ (5, <u> </u>) |

ALGEBRA ANTICS #3

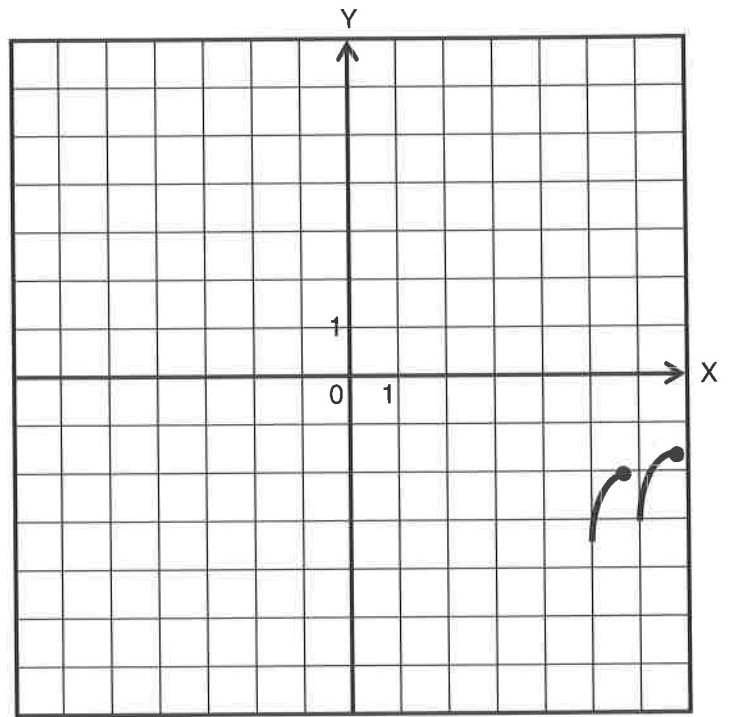
Find the value for each expression. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



- | | | | | | |
|-----------------|------------|----------------------|------------|----------------------|------------|
| 1. $-9 + 8 =$ | (__ , 3) | 8. $-3 + -4 =$ | (-1 , __) | 15. $23 + -18 =$ | (__ , 3) |
| 2. $-2 + -1 =$ | (__ , 1) | 9. $-62 + 57 =$ | (1 , __) | 16. $-4 + -8 + 17 =$ | (5 , __) |
| 3. $17 + -16 =$ | (-5 , __) | 10. $-9 + -5 + 15 =$ | (__ , -3) | 17. $-39 + 42 =$ | (__ , 5) |
| 4. $-5 + -2 =$ | (__ , -1) | 11. $8 + -13 + 4 =$ | (3 , __) | 18. $6 + -8 + 5 =$ | (1 , __) |
| 5. $28 + -31 =$ | (__ , -1) | 12. $-46 + 51 =$ | (__ , -1) | 19. $-5 + -7 + 19 =$ | (1 , __) |
| 6. $-22 + 19 =$ | (-3 , __) | 13. $34 + -27 =$ | (__ , 1) | 20. $73 + -68 =$ | (-1 , __) |
| 7. $-54 + 53 =$ | (__ , -3) | 14. $-9 + 16 + -4 =$ | (__ , 1) | 21. $-2 + 9 + -8 =$ | (__ , 3) |

ALGEBRA ANTICS #5

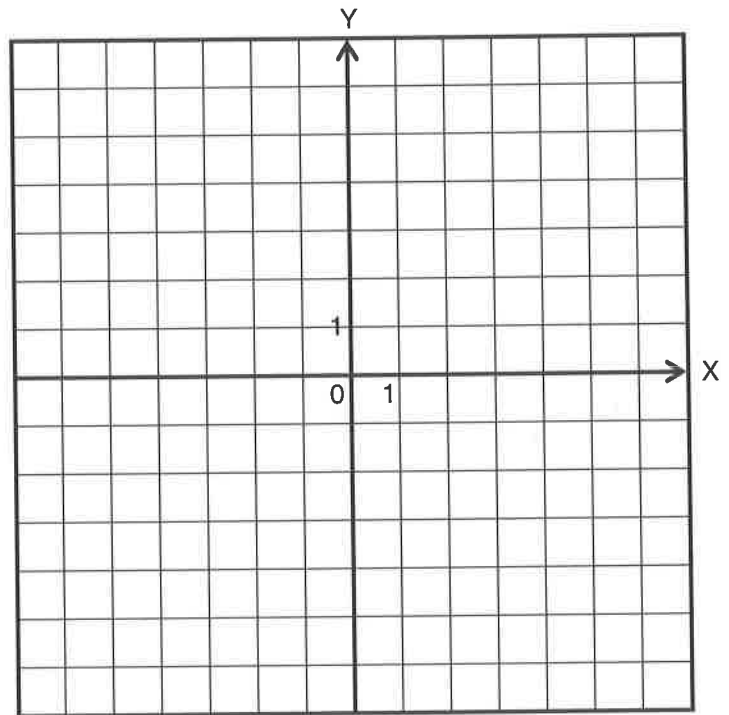
Find the value for each expression. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



- | | | | | | |
|----------------------|-------------|-------------------------|-------------|------------------------|-------------|
| 1. $-3 - (-3) =$ | (__ , 0) | 8. $6 - 9 =$ | (2 , __) | 15. $12 - 7 =$ | (__ , -1) |
| 2. $-13 - (-14) =$ | (__ , -1) | 9. $-7 - (8 - 15) =$ | (__ , -4) | 16. $8 - (11 - 7) =$ | (__ , -3) |
| 3. $0 - 2 =$ | (-1 , __) | 10. $-(7 - 2) - (-1) =$ | (__ , -3) | 17. $-(1 - 2) - 4 =$ | (2 , __) |
| 4. $7 - 5 - 4 =$ | (__ , -1) | 11. $11 - 4 - 12 =$ | (__ , -1) | 18. $3 - (-4) =$ | (__ , -3) |
| 5. $(6 - 2) - 3 =$ | (-2 , __) | 12. $4 - (13 - 11) =$ | (-4 , __) | 19. $13 - 20 - (-2) =$ | (5 , __) |
| 6. $17 - (18 - 1) =$ | (__ , 2) | 13. $-(8 - 9) - 1 =$ | (__ , 4) | 20. $-1 - 2 - 4 =$ | (__ , -5) |
| 7. $11 - (12 - 4) =$ | (__ , 0) | 14. $-(4 - 5) - (-2) =$ | (3 , __) | 21. $-(8 - 5) - 1 =$ | (__ , -3) |

ALGEBRA ANTICS #7

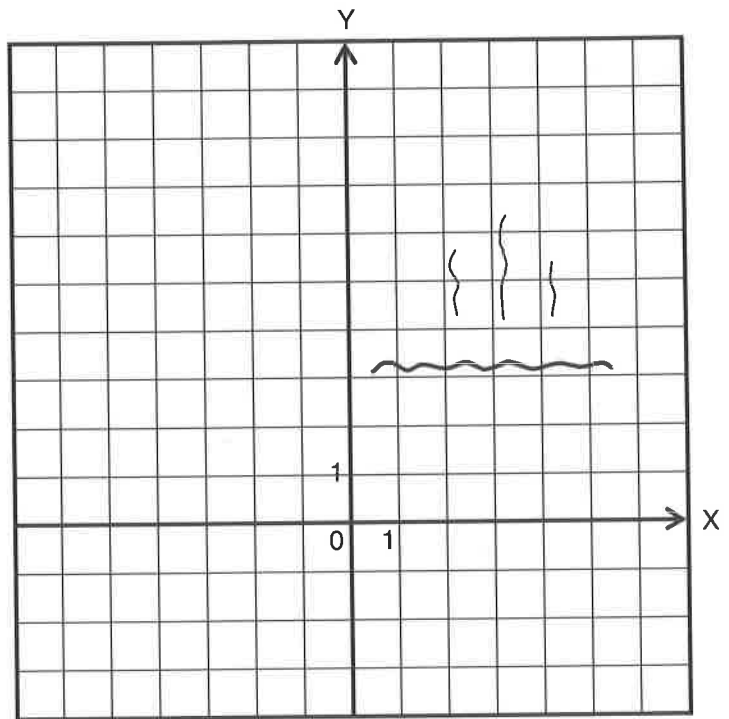
Find the value for each expression. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



- | | | |
|--------------------------------------|---------------------------------------|--|
| 1. $(-3)(-2) =$ (__ , -1) | 8. $(\frac{-3}{5})(5) =$ (__ , -1) | 15. $\frac{-56}{8} =$ (__ , 2) |
| 2. $(\frac{1}{8})(-8) =$ (4, __) | 9. $(\frac{1}{2})(-4) =$ (-3, __) | 16. $(-1\frac{1}{2})(\frac{2}{3}) =$ (__ , 2) |
| 3. $(-2)(-2) =$ (__ , -2) | 10. $\frac{32}{8} =$ (__ , -3) | 17. $\frac{4}{9}(-2\frac{1}{4}) =$ (__ , 5) |
| 4. $\frac{-15}{5} =$ (3, __) | 11. $\frac{-12}{4} =$ (-5, __) | 18. $(-7)(\frac{-5}{7}) =$ (2, __) |
| 5. $\frac{21}{-7} =$ (2, __) | 12. $(3)(-2) =$ (__ , -2) | 19. $- (\frac{24}{8}) =$ (__ , 2) |
| 6. $\frac{-18}{9} =$ (1, __) | 13. $- (\frac{2}{3})(9) =$ (__ , -1) | 20. $\frac{-45}{-9} =$ (__ , 2) |
| 7. $(-6)(\frac{-1}{6}) =$ (__ , -1) | 14. $\frac{42}{6} =$ (__ , -1) | 21. $- (\frac{-36}{6}) =$ (__ , -1) |

ALGEBRA ANTICS #9

Substitute the values for the variables. Then find the value for each expression. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



$$a = -2 \quad b = 3 \quad c = -6$$

1. $ab - c =$ (__ , 3)

2. $ac - bb =$ (6, __)

3. $\frac{c}{a} - a =$ (__ , 4)

4. $a - c =$ (4, __)

5. $ac + a + c =$ (1, __)

6. $c + b - a =$ (__ , 2)

7. $\frac{2ab}{c} =$ (-4, __)

8. $b(b - a) - ac =$ (-5, __)

9. $c - b - 2a =$ (__ , 4)

10. $7b + bc - a =$ (-5, __)

11. $a(2a - c) =$ (__ , 6)

12. $\frac{bc}{a} - b =$ (-3, __)

13. $a - c + b =$ (-3, __)

14. $9b + 2a(b - a) =$ (-2, __)

15. $\frac{c + a}{aa} =$ (__ , 6)

16. $bc - 4ab =$ (-1, __)

17. $\frac{ac + b}{-b - c} =$ (0, __)

18. $8b - 2ac =$ (__ , 3)

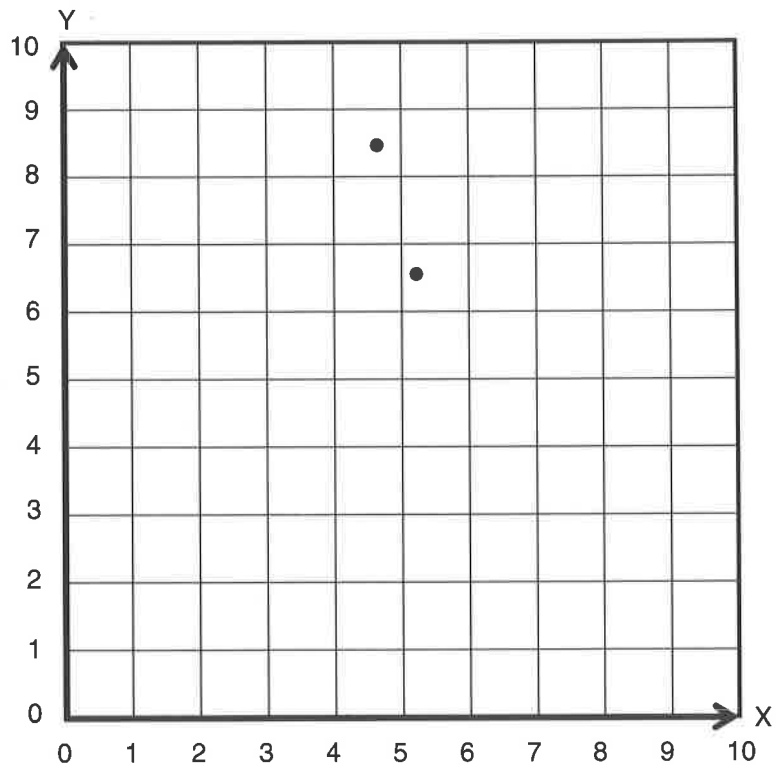
19. $aaa - (ab - b) =$ (__ , 2)

20. $5(a + c) - 7c =$ (5, __)

21. $\frac{b - c}{b} =$ (6, __)

ALGEBRA ANTICS #11

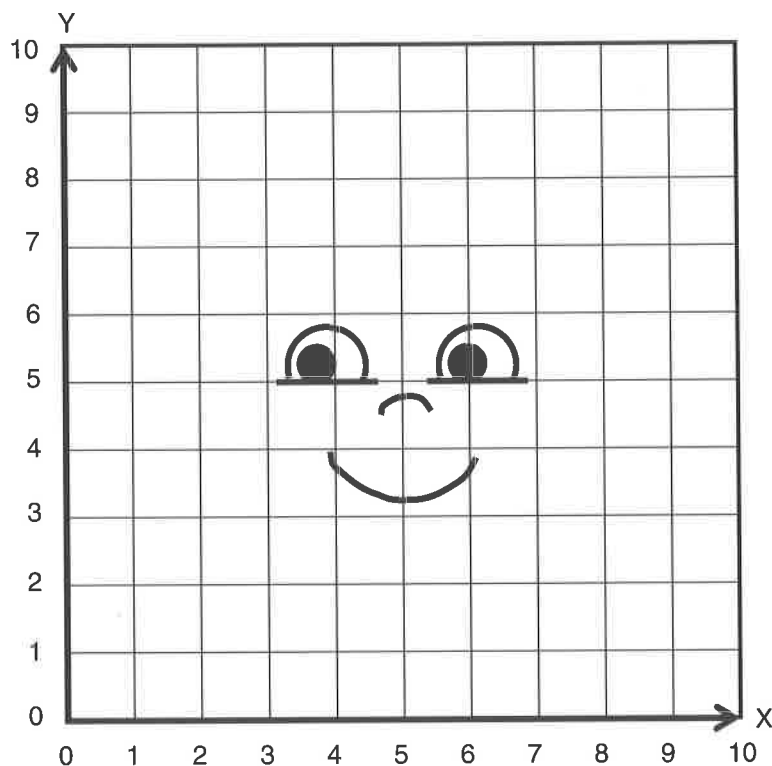
Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end. Connect the last point to the first point.



- | | | | | | |
|---------------------|------------|------------------------------|------------|------------------------------|------------|
| 1. $x - 9 = -8$ | (__ , 2) | 9. $19 = 23 - y$ | (7 , __) | 17. $m - 11 = -3$ | (5 , __) |
| 2. $7 - k = 3$ | (2 , __) | 10. $9 + f = 17$ | (__ , 4) | 18. $13 - w = 7$ | (6 , __) |
| 3. $13 = 15 - n$ | (__ , 5) | 11. $-6(-3) = n + 10$ | (__ , 2) | 19. $64 = x + 59$ | (__ , 6) |
| 4. $w + 4 = 9$ | (4 , __) | 12. $-4 - x = -13$ | (__ , 2) | 20. $y + 8 = -4(-3)$ | (4 , __) |
| 5. $y - 12 = -5$ | (5 , __) | 13. $p + 28 = 34$ | (9 , __) | 21. $\frac{-24}{6} = h - 9$ | (__ , 2) |
| 6. $14 = r + 8$ | (__ , 6) | 14. $z - 9 = 5 - 7$ | (__ , 6) | 22. $42 - t = 38$ | (__ , 2) |
| 7. $c + 3 = -2 + 7$ | (6 , __) | 15. $-6 = y - 15$ | (5 , __) | 23. $-5 = x - 8$ | (__ , 4) |
| 8. $x - 13 = -3(2)$ | (__ , 2) | 16. $e + 4 = \frac{-14}{-2}$ | (__ , 8) | 24. $y - 11 = \frac{36}{-4}$ | (2 , __) |

ALGEBRA ANTICS #13

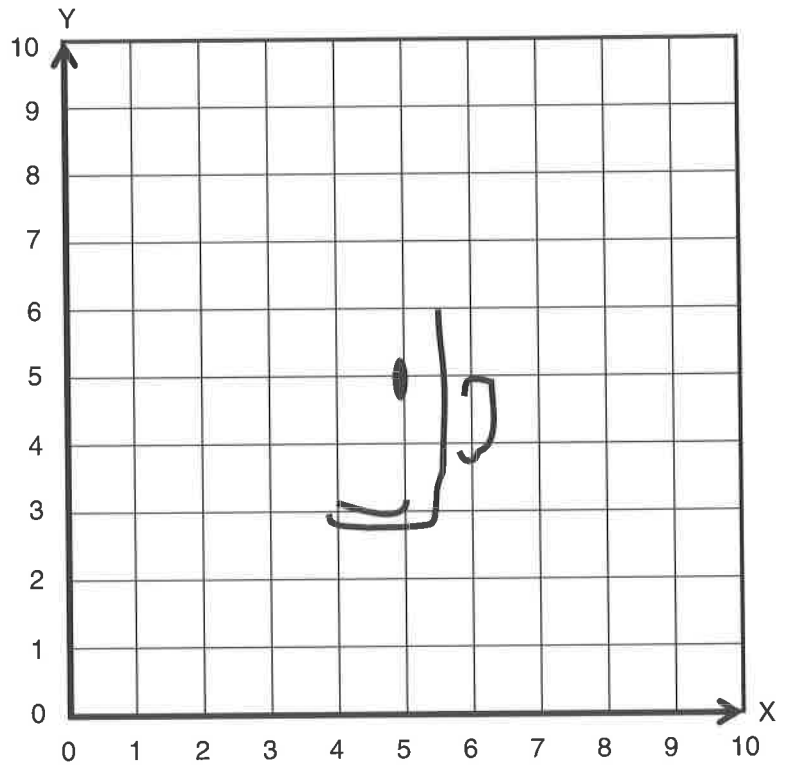
Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



- | | | | | | |
|-------------------|----------|---------------------|----------|--------------------|----------|
| 1. $4y = 28$ | (2, ___) | 8. $7h = 51 - 9$ | (___, 2) | 15. $15 = 4f + f$ | (___, 8) |
| 2. $72 = 9x$ | (___, 7) | 9. $3v + 6v = 36$ | (___, 2) | 16. $6t = 3(18)$ | (4, ___) |
| 3. $4k + 2k = 30$ | (8, ___) | 10. $6(4) = 8y$ | (3, ___) | 17. $5x = 32 - 7$ | (___, 8) |
| 4. $8w = 29 + 3$ | (8, ___) | 11. $14 = 11a - 4a$ | (3, ___) | 18. $2(9) = 3e$ | (___, 9) |
| 5. $9m = 81$ | (___, 3) | 12. $13x = 6 + 7$ | (___, 3) | 19. $3y + 5y = 64$ | (7, ___) |
| 6. $6c = 3(4)$ | (7, ___) | 13. $4u = 8(2)$ | (2, ___) | 20. $6p = 4(12)$ | (___, 9) |
| 7. $35 = 5n$ | (___, 3) | 14. $9r - 2r = 63$ | (2, ___) | 21. $8w = 63 - 7$ | (8, ___) |

ALGEBRA ANTICS #15

Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end. Connect the last point to the first point.



1. $3x - 14 = x$

(__ , 6)

2. $4y = 9y - 30$

(3, __)

3. $12c = 5 + 11c - 2$

(__ , 7)

4. $8a - 7 = 4a + 9$

(__ , 7)

5. $4m = 6m - 20$

(4, __)

6. $9z - 5z = 30 + z$

(7, __)

7. $8w = w + 49$

(__ , 7)

8. $6x - 12 = 60 - 3x$

(__ , 7)

9. $k + 39 = 7k - 9$

(__ , 6)

10. $10t = 3t + 28$

(__ , 6)

11. $y + 6y = 45 - 2y$

(4, __)

12. $8d - 18 - d = d$

(__ , 4)

13. $5f = 41 - 3f - 9$

(4, __)

14. $6r - 7 = 7r - 10$

(4, __)

15. $4 - 2v = 4v - 8$

(3, __)

16. $9y + 17 = 24 + 2y$

(3, __)

17. $18 - 3x = x - 6$

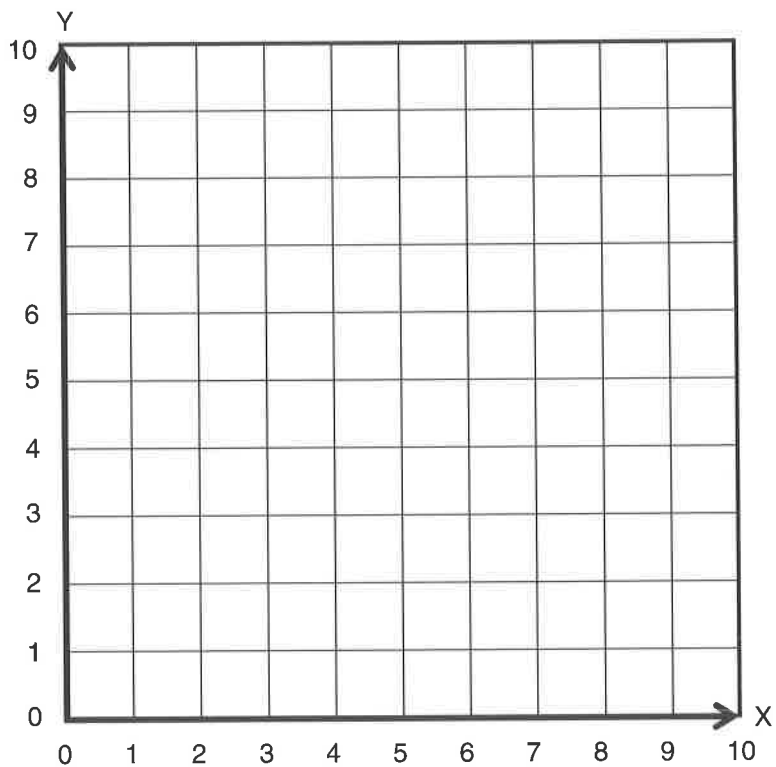
(__ , 1)

18. $5n + 12 = 75 - 4n$

(__ , 3)

ALGEBRA ANTICS #17

Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



1. $\frac{y}{3} = 3$

(4, __)

8. $7x = 42$

(__, 2)

15. $2 = \frac{t}{3}$

(3, __)

2. $6w = 30$

(6, __)

9. $16 = 4d$

(__, 2)

16. $5y = 20$

(2, __)

3. $2 = \frac{x}{4}$

(__, 4)

10. $9n = 36$

(__, 4)

17. $\frac{u}{2} = 2$

(__, 5)

4. $7m = 49$

(__, 6)

11. $1 = \frac{y}{7}$

(5, __)

18. $45 = 9x$

(__, 7)

5. $4c = 28$

(5, __)

12. $8a = 72$

(6, __)

19. $6m = 48$

(3, __)

6. $32 = 8v$

(6, __)

13. $\frac{b}{2} = 5$

(8, __)

20. $\frac{e}{5} = 2$

(2, __)

7. $\frac{k}{2} = 3$

(__, 3)

14. $56 = 7r$

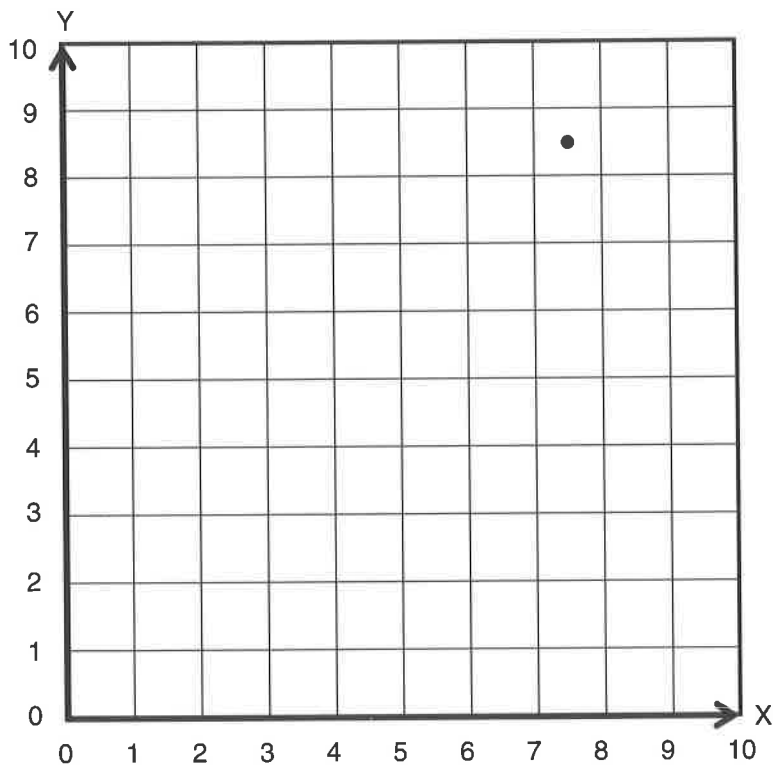
(7, __)

21. $63 = 7w$

(4, __)

ALGEBRA ANTICS #19

Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end. Connect the last point to the first point.



1. $2x - 1 = 7$ (__ , 6)

2. $\frac{y}{5} + 3 = 4$ (2, __)

3. $23 = 9k - 4$ (__ , 4)

4. $\frac{n}{2} + 14 = 16$ (4, __)

5. $8 + 5c = 28$ (__ , 2)

6. $\frac{a}{3} + 9 = 11$ (__ , 2)

7. $3m + 2 = 17$ (__ , 3)

8. $6r - 5 = 19$ (5, __)

9. $50 = 2 + 8w$ (__ , 4)

10. $3x + 8 = 29$ (__ , 5)

11. $19 = 4b - 13$ (8, __)

12. $\frac{z}{3} + 6 = 9$ (__ , 8)

13. $\frac{5x}{2} - 12 = 8$ (__ , 9)

14. $100 = 19 + 9y$ (7, __)

15. $\frac{2u}{7} + 4 = 6$ (5, __)

16. $9d - 41 = 22$ (2, __)

17. $7 = 5 + \frac{y}{4}$ (1, __)

18. $8 + 6f - 3 = 11$ (__ , 6)

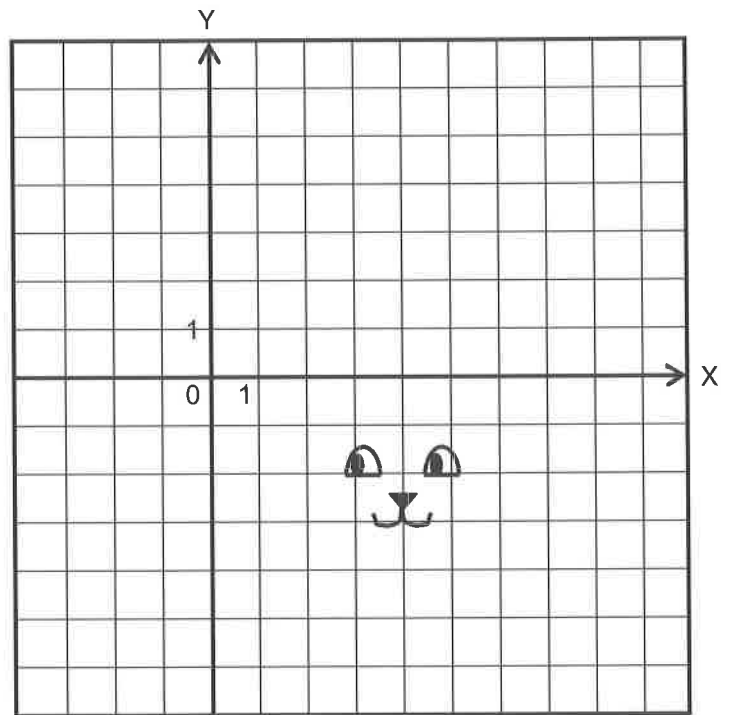
19. $19 - 8k = 3$ (__ , 5)

20. $12 = 4 + 3y - 7$ (5, __)

21. $\frac{2x}{4} + 7 = 10$ (__ , 6)

ALGEBRA ANTICS #21

Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end. Connect the last point to the first point.



1. $-26 = 14 - 8x$

(__ , 0)

2. $\frac{3w}{2} + 7 = 10$

(5, __)

3. $9x - 61 = -7$

(__ , 3)

4. $\frac{4p}{7} = 7 - 9 + 6$

(__ , 3)

5. $-8 - 13 = 5h - 8h$

(__ , 1)

6. $6a - 9 = 7 - 16$

(5, __)

7. $9 - 11 = \frac{h-7}{4}$

(6, __)

8. $-6 + 57 = 8x + 3$

(__ , -3)

9. $\frac{5n}{-2} = 6 + 4$

(5, __)

10. $9m + 61 = 25$

(3, __)

11. $23 - 6v = 41$

(2, __)

12. $\frac{3-2t}{5} = -1(-1)$

(2, __)

13. $6(-2) = r - 5r$

(__ , 0)

14. $-2 = \frac{7+k}{-4}$

(1, __)

15. $19 - 9y = -8$

(1, __)

16. $3 = -5 + 7p - 6$

(__ , 3)

17. $x - 9x = -4(6)$

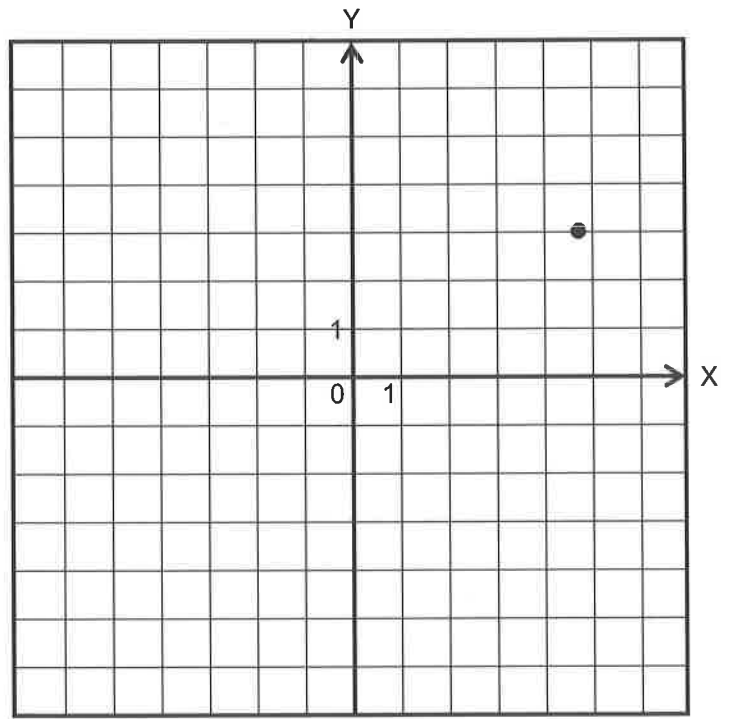
(__ , 2)

18. $-5(-3) = 15 - 7c$

(3, __)

ALGEBRA ANTICS #23

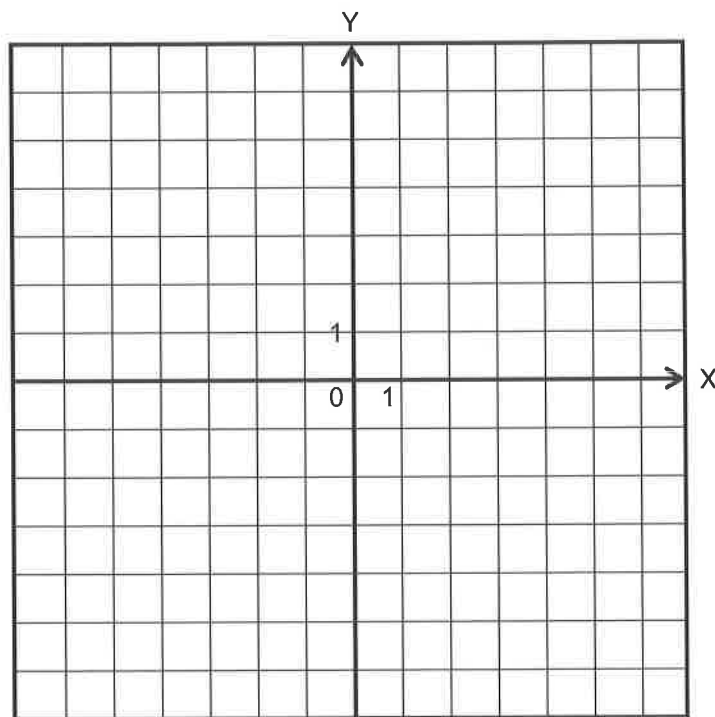
Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



- | | | | |
|--|-----------|-----------------------------------|-----------|
| 1. $8y - 9 = \frac{7}{2}y$ | (3, ___) | 10. $4x - 9 = \frac{5x - 3}{4}$ | (___, -6) |
| 2. $\frac{7x + 5}{4} = x + 2$ | (___, 0) | 11. $3(r - 4) = 7(r + 2) - 2$ | (7, ___) |
| 3. $9(6 + 2a) = -(2 - 4a)$ | (-1, ___) | 12. $2(7 - w) = 2 - 5w$ | (5, ___) |
| 4. $3 - 2k = \frac{8k - 3}{-3}$ | (___, 2) | 13. $5(2x - 3) - (x + 9) = 21$ | (___, 2) |
| 5. $4(3h - 7) = -3(-2h) - 4$ | (-5, ___) | 14. $\frac{3a + 11}{8} = a - 3$ | (___, 2) |
| 6. $\frac{2(u - 5)}{3} = -2$ | (-6, ___) | 15. $6(y + 1) + 2(3 - y) = 7y$ | (5, ___) |
| 7. $8(7 - y) = 6(y + 9) + 2$ | (-7, ___) | 16. $-2(4 - c) = \frac{2}{3}c$ | (5, ___) |
| 8. $6(f - 1) = 4(1 + 2f)$ | (___, 0) | 17. $\frac{3}{4}(x + 5) = 3x - 3$ | (___, 4) |
| 9. $\frac{2 - v}{-2} = \frac{3v - 2}{5}$ | (-1, ___) | 18. $3(2y + 3) = 2(5y) + 1$ | (3, ___) |

ALGEBRA ANTICS #25

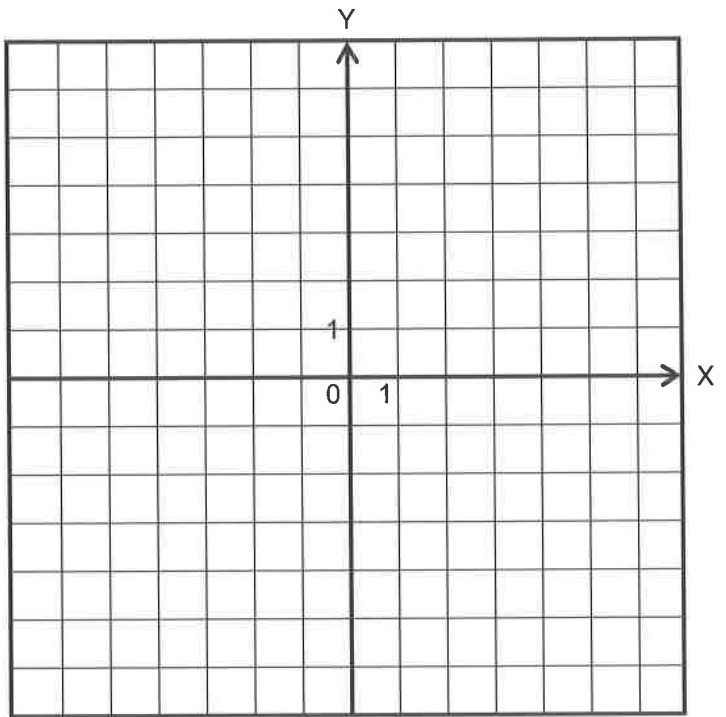
Find the value for each expression. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end.



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|------------------------|----------|------------------------------|----------|-------------------------|----------|
| 1. $(-2)^2 + 1^2 =$ | (1, __) | 8. $(-6)^2 \div 3^2 =$ | (-4, __) | 15. $-5(6^0) =$ | (__, -2) |
| 2. $4^2 - 13 =$ | (__, 7) | 9. $5^2 - 7(2^2) =$ | (__, 7) | 16. $-(2^4) \div 4^2 =$ | (5, __) |
| 3. $2^3 \div 2 =$ | (4, __) | 10. $3^2 - (-2)^2 =$ | (-2, __) | 17. $2^5 - 5^2 =$ | (__, -3) |
| 4. $(-3)^2 - 2^1 =$ | (__, 3) | 11. $2^3 - 3^2 =$ | (__, -5) | 18. $(-2)^3 + (-2)^2 =$ | (4, __) |
| 5. $4^2 \div 2^3 =$ | (5, __) | 12. $(1^2 - 8^2) \div 3^2 =$ | (-3, __) | 19. $3^3 \div 3^2 =$ | (__, -7) |
| 6. $(8 + 6)^0 =$ | (-5, __) | 13. $2^5 - 6^2 =$ | (__, -4) | 20. $11(2^2) - 7^2 =$ | (2, __) |
| 7. $(-3)^3 + 5(2^2) =$ | (__, 3) | 14. $(-7)^2 - 52 =$ | (-7, __) | 21. $(6 - 9)^0 =$ | (__, 5) |

ALGEBRA ANTICS #27

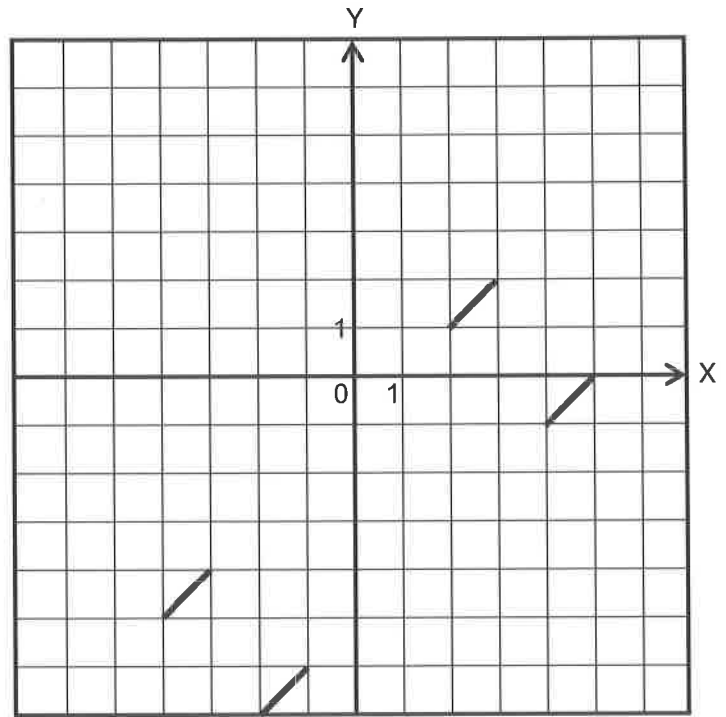
Solve all the equations for the given variables. Put each answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end. For all square roots, use only the positive root.



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|--------------------------------|----------|--------------------------------|----------|--------------------------------|---------|
| 1. $6 + k = \sqrt{9}$ | (2, __) | 9. $\sqrt{64} + h = \sqrt{25}$ | (__, -2) | 17. $r = \sqrt{25}$ | (1, __) |
| 2. $\sqrt{16} - \sqrt{25} = p$ | (0, __) | 10. $u + \sqrt{36} = 2$ | (__, -3) | 18. $4m = \sqrt{64}$ | (1, __) |
| 3. $t + 1 = \sqrt{1}$ | (-1, __) | 11. $\sqrt{4} + k = 1$ | (-5, __) | 19. $v = \sqrt{16} - \sqrt{9}$ | (2, __) |
| 4. $b + \sqrt{9} = 2$ | (__, 1) | 12. $-z = \sqrt{49}$ | (__, 0) | 20. $\sqrt{81} = 3t$ | (__, 2) |
| 5. $\sqrt{1} + 1^3 = f$ | (0, __) | 13. $\sqrt{64} + w = 2$ | (__, 1) | 21. $3x = 3\sqrt{16}$ | (__, 2) |
| 6. $2r = 2\sqrt{4}$ | (1, __) | 14. $2^2 - 2\sqrt{16} = a$ | (__, 1) | 22. $2^3 - c = 1 + \sqrt{4}$ | (__, 1) |
| 7. $x + \sqrt{36} = 6$ | (__, 3) | 15. $2 = n - \sqrt{4}$ | (-1, __) | 23. $\sqrt{9(4)} = h + 1$ | (__, 0) |
| 8. $g + \sqrt{49} = 2^2$ | (__, 0) | 16. $y = \sqrt{9} + \sqrt{4}$ | (-2, __) | 24. $k + \sqrt{49} = 2^2$ | (2, __) |

ALGEBRA ANTICS #29

Find the slope of the line represented by each given equation. Put your answer in the blank in the ordered pair. Take the ordered pair for problem #1 and plot the point on the graph. The first number of the pair tells how far to move horizontally on the x-axis; the second number tells how far to move vertically on the y-axis. Next, plot the point for #2. Draw a line to connect the two points. Continue plotting each new point and connecting it to the preceding point until you reach the end. Connect the last point to the first point.



1. $6x + 2y = 10$

(__ , -4)

2. $5x - 4y = y + 3$

(2, __)

3. $y + 3 = 4 + 3x$

(__ , 1)

4. $12x - 3y = 8$

(__ , 0)

5. $2x + y = 8 - y$

(4, __)

6. $\frac{y-x}{2} = 5 - x$

(__ , -6)

7. $12x + 3y = y + 9$

(-3, __)

8. $\frac{3-2y}{x} = 10$

(-3, __)

9. $y - 4 = 2(x - 1)$

(__ , 0)

10. $x + 2(y - x) = 5 + x$

(1, __)

11. $19 - y = x - x$

(__ , 1)

12. $x = \frac{1}{2}y - \frac{1}{4}y$

(__ , -3)

13. $2y = -9(-4) - 4x$

(4, __)

14. $\frac{x}{4y} = \frac{1}{8}$

(__ , 0)

15. $3x - y = 17 - 62$

(__ , 0)

16. $x - 2 = \frac{6x+y}{5}$

(3, __)

17. $y = 2(4 - x)$

(__ , -6)

18. $4y = 3x + 5y - 2$

(__ , -6)