

Algebra 1 Homework 1.2

Name _____

For 1 – 15: Solve the following equations.

1) $p + 2p - 3 = 6$

2) $6c - 8 - 2c = -16$

3) $5m + 2(m + 1) = 23$

4) $6 + 3x = 11$

5) $3x - 5x + 7 = 9$

6) $3(x + 4) - 6 = -12$

7) $27 = 3c - 3(6 - 2c)$

8) $-3 = 12y - 5(2y - 7)$

9) $-11.2 + 4(2.1 + q) = -0.8$

10) $3x = 5$

11) $5x = 75$

12) $\frac{x}{4} = 7$

13) $3x - 7 = 32$

14) $2x + 5 = -7$

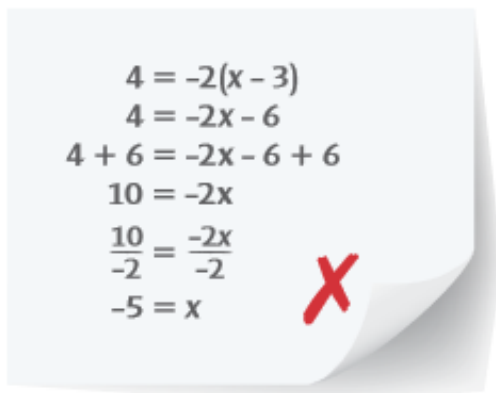
15) $-\frac{x}{3} + 5 = -11$

For 16 – 17: Which property is shown – Associative or Commutative?

16) $2 + (5 + 9) = 2 + (9 + 5)$

17) $6 + (7 + 1) = (6 + 7) + 1$

18) Describe and correct the error a student made when solving the equation $4 = -2(x - 3)$. What is the solution?


$$\begin{aligned}4 &= -2(x - 3) \\4 &= -2x - 6 \\4 + 6 &= -2x - 6 + 6 \\10 &= -2x \\ \frac{10}{-2} &= \frac{-2x}{-2} \\-5 &= x\end{aligned}$$

Algebra 1 Homework 1.3

Name _____

For 1-12: Solve the following equations.

1) $4y + y + 1 = 7(y - 1)$

2) $8 + 4m = 9m - 7$

3) $9a = 6(a + 4)$

4) $5(n + 3) = 3(5 + 10n)$

5) $w + 3 = w + 6$

6) $16d = 22 + 5d$

7) $12y + 6 = 6(2y + 1)$

8) $6x - 4 = -(-3x + 1)$

9) $34 - 2x = 7x$

10) $27 - 3x = 3x + 27$

11) $\frac{6x+8}{2} - 4 = 3x$

12) $3(x - 4) = -2(4 - x)$

13) Tavon has a \$50 gift card that loses \$2 for each 30-day period it is not used. He has a \$40 card that loses \$1.50 for each 30-day period it is not used.

a) Write and solve an equation for the number of 30-day periods until the value of the gift cards will be equal.

b) What will the value of each card be when they have equal value?

14) Jamie will choose between two catering companies for an upcoming party. Company A charges a set-up fee of \$500 plus \$25 for each guest. Company B charges a set-up fee of \$200 plus \$30 per guest.

a) Write expressions that you can use to determine the amount each company charges for g guests.

b) Jamie learns that the \$500 set-up fee for Company A includes payment for 20 guests. The \$25 per guest charge is for every guest over the first 20. If there will be 50 guests, which company will cost the least? Explain.

Algebra 1 Homework 1.4

Name _____

For 1 – 10: Solve for the requested variable.

1) $A = bh$; solve for b

2) $5a + 2b = 40$; solve for b

3) $V = \frac{1}{3}lwh$; solve for h .

4) $V = \frac{Bh}{3}$; solve for h .

5) $SA = 6lw$; solve for w .

6) $6x + 2y = 12$; solve for y .

7) $3x - 2y = 12$; solve for y .

8) $-4x - 3y = 12$; solve for y .

9) $-2x + 6y = 12$; solve for y .

10) $6y + x = 8$; solve for y .

11) In a half hour, Cherie is meeting her friends at the lake, which is 12 mi from her house. At what average speed must she ride her bike to get there on time, if $d = rt$, where d is distance, r is rate, and t is time in hours?

For 12 – 14: Solve the following equations.

12) $3n + 12 = 30$

13) $-14x + 28 + 6x = -44$

14) $4 - 5k = -8 - 5k$

Bonus: According to Mrs. Ault's bread recipe, she should bake the bread at 250°C for 60 minutes. Her oven measures temperatures in $^{\circ}\text{F}$. To what temperature in $^{\circ}\text{F}$ should he set his oven?

Note: use $C = \frac{5}{9}(F - 32)$ where C is degrees in Celsius and F is degrees in Fahrenheit.

Algebra 1 Homework 1.5

Name _____

For 1 – 9: Solve each inequality and graph the solution.

1) $x + 9 > 15$

2) $5x + 15 \leq -10$

3) $-3x > 15$



4) $4x + 1 + 2x \geq 5$

5) $6x \geq 0.3$

6) $-\frac{1}{5}x > -10$



7) $2x + 5 < 3x + 4$

8) $2(7x - 2) > 9x + 6$

9) $-2.1x + 2.1 < 6.3$



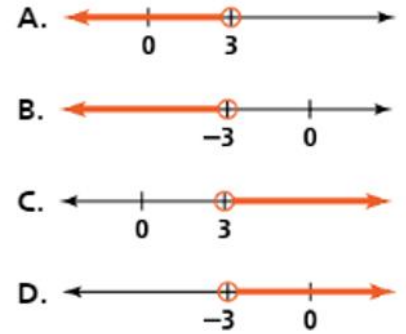
For 10 – 13: Match each inequality to the graph that represents its solution.

10) $-2(3x - 1) > 20$

11) $2(1 - 3x) < 20$

12) $-2(1 - 3x) > 16$

13) $2(3x - 1) < 16$



For 14 – 15: Solve each inequality and tell whether it has infinitely many or no solutions.

14) $2x + 12 > 2(x + 6)$

15) $-2x - 10 \leq -2(x + 3)$

For 16 – 17: Solve for the indicated variable.

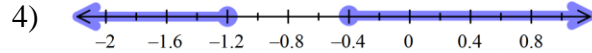
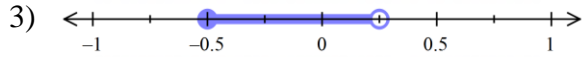
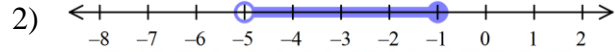
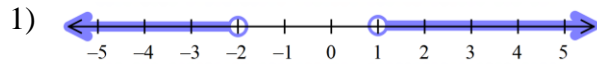
16) $3x - 8y = 24$; solve for y .

17) $6a + 4b = 15$; solve for a .

Algebra 1 Homework 1.6

Name _____

For 1-4: Write a compound inequality for each graph.



For 5-6: Translate the verbal phrase into an inequality. Then graph the inequality.

5) All real numbers that are less than or equal to -3 and greater than or equal to -8



6) All real numbers that are greater than 5 or less than or equal to -1



For 7-12: Solve the inequality and graph your solution.

7) $-3 < x + 1 \leq 5$

8) $0 \leq 2(x - 3) < 8$



9) $-7 < x - 8 < 2$

10) $3x + 2 < 8$ or $-x + 3 < -2$



11) $-5 < -5x \leq 20$

12) $2(x + 4) < 6$ or $-x - 3 \leq -7$



For 13 – 14: Solve for x .

13) $5x - 1 = 3x + 5$

14) $3(5x - 3) = 5(x - 1)$

15) If $\frac{x-1}{3} = k$ and $k = 3$, what is the value of x ?

- A) 2
- B) 4
- C) 9
- D) 10

16) Which of the following is the solution statement for the inequality shown below?

$$-5 < 1 - 3x < 10$$

- A) $-5 < x < 10$
- B) $-3 < x$
- C) $-3 < x < 2$
- D) $-2 < x < 3$
- E) $x < -3$ or $x > 2$

Algebra 1 Chapter 1 Practice Test

Name _____

For #1 – 12, solve for the variable.

1) $7x + 16 = -2$

2) $\frac{2}{5}n - 3 = 11$

3) $20 = 4(7 - 3b)$

4) $4g - 7 = -5g + 2$

5) $-15a + 2a - 3 = 23$

6) $2(4a - 1) = -3(2 - 7a)$

7) $4x + 2 = 3x + 3 + x - 1$

8) $-2x - (5x + 3) = 8$

9) $\frac{1}{2}(5x + 6) + 4 = -8$

10) $5x - 4(2x - 3) = -(3x + 1)$

11) $\frac{2x-4}{3} = 6$

12) $3x - 5(x + 2) = -x - (2x + 1)$

For #13 – 20, find the value of x in this equation and graph the solution set.

13) $12 > 3(x + 8)$

14) $2(-3x + 1) < -6(x + 8)$



15) $-8x + 4 \geq 6x - 9$

16) $5x + 3 > 5x - 2$



17) $-9 \leq 2x + 1 < 5$



18) $\frac{2}{3}x < -6$ or $5x - 3 \geq -8$



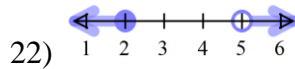
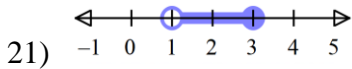
19) $5x - 1 \leq 2$ or $3x \geq 9$



20) $18 < 3x - 9 \leq 24$



For #21 – 22, write a compound inequality for the graph below:



For #23 – 26, solve for the indicated variable:

23) Solve for y : $-2x - 5y = 35$

24) Solve for y : $4x - 6y = 12$

25) Solve for x : $5 = mx - p$

26) Solve for a : $A = \frac{1}{2}aP$

For #27 – 28: Charles has a gift card with a balance of \$50 on it. He decides that he needs to maintain a balance of at least \$20 on the gift card.

27) Write an inequality that shows how much money m Charles could spend for this situation.

28) Solve the inequality for m .