



What Do You Call It When Police Interrogate a Cow's Husband?

Solve each problem and find your solution in the rectangle below. Cross out the box containing that solution. When you finish, there will be six boxes not crossed out. Print the letters from these boxes in the spaces at the bottom of the page.

- ① Eight more than a number is 20.
Find the number. *12*
- ② Twelve less than a number is -3 .
Find the number. *9*
- ③ Three more than a number is -5 .
Find the number. *-8*
- ④ Nine less than a number is -24 .
Find the number. *-15*
- ⑤ If 10 is subtracted from a number, the result is 23.
Find the number. *33*
- ⑥ If 32 is added to a number, the result is -4 .
Find the number. *-36*
- ⑦ If a number is increased by 6, the result is 50.
Find the number. *44*
- ⑧ If a number is decreased by 16, the result is -2 .
Find the number. *14*
- ⑨ The length of a tennis court is 78 feet. This is 51 feet more than the width. What is the width? *27 ft*
- ⑩ Andy hit 14 homeruns this season. If this is 9 fewer than he hit last season, how many homeruns did he hit last season? *23 homeruns*
- ⑪ Jennifer added \$120 to her savings account during July. If this brought her balance to \$700, how much had she saved previously? *\$580*
- ⑫ The temperature in Frostburg is -7°C . This is 18°C less than the temperature in Coldspot. Find the temperature in Coldspot. *11°C*
- ⑬ After 9 new members joined the ski club, there were 38 members. How many members had been in the club previously? *29 members*
- ⑭ The altitude of a submarine is -60 meters. If this is 25 meters less than its previous altitude, what was its previous altitude? *-35 m*

CO 14	IN 33	JA -35 m	WS \$580	LK 12	QU -75 m	IT 29	SH -15	AM 9	ES \$565
OO -36	TI 8°C	ME 27 ft	ON 31	ST -8	TO 11°C	AB 17	OP 44	ED 23	LE 32 ft
 Q U E S T I O N A B L E 									

"Question a bull"

pg. 298 #1, 21, 23, 25, 27

1. An equation has an equal sign and an expression does not.
21. See *Taking Math Deeper*.
23. 13
25. 28
27. B

**pg. 312-313 # 3,7-11 odd, 15, 19, 25, 27,
35, 38**

3. $\frac{4x}{4} = \frac{24}{4}$

7. $s = 70$

9. $x = 24$

11. $a = 4$

15. $x = 15$

19. $c = 66$

25. $3x = 45$; 15 teams

27. 9 units

35. length: 20 in.; width: 5 in.

38. C

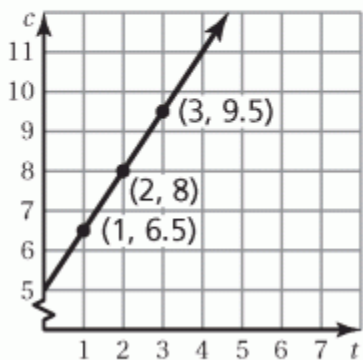
pg. 319 #1, 5-17 odd, 22, 23, 27, 38



(44 exercises.)

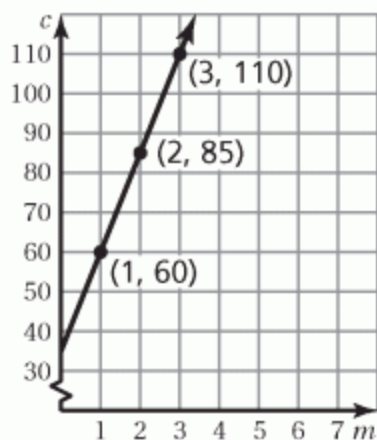
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1. *Sample answer:* An independent variable can change freely. A dependent variable depends on the independent variable.
5. $A = 9h$ where A is the area in square feet and h is the height in feet; A depends on h .
7. yes
9. no
11. yes
13. w is independent and A is dependent.
15. p is independent and t is dependent.
17. \$270
22. *Sample answer:* $c = 1.5t + 5$ where t is the number of toppings and c is the total cost of the pizza.

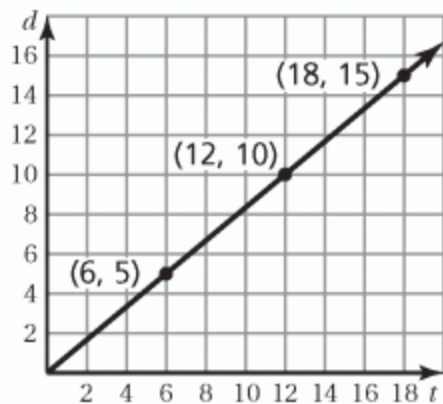


23. *Sample answer:*

$c = 25m + 35$ where m is the number of months and c is the total cost of the gym membership.



27. $d = \frac{5}{6}t$;



38. See *Taking Math Deeper*.

pg. 329-331 #2-4,7-13 odd, 21-24,25,27,29,32, 39

2. A number n is at least 3;
 $n \geq 3$; $n \leq 3$
3. The graph of $x \leq 6$ has a closed circle at 6. The graph of $x < 6$ has an open circle at 6.
4. Both graphs are the same, because both indicate that x is less than or equal to 5.

7. $z < \frac{3}{4}$

9. $1 + y \leq -13$

11. yes

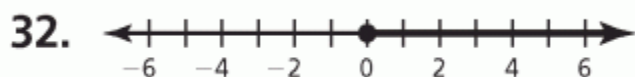
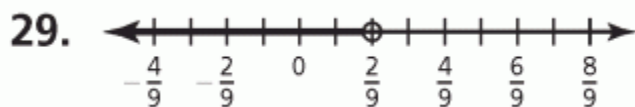
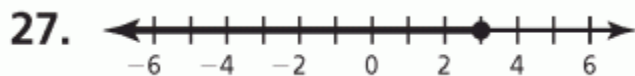
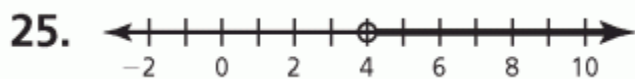
13. yes

21. $x < 1$; A number x is less than 1.

22. $x \leq 1$; A number x is at most 1.

23. $x \geq -4$; A number x is at least -4 .

24. $x > 0$; A number x is more than 0.



39. a. $b \leq 3$;



b. $\ell \geq 18$;



7.6 - Solving Inequalities 1

Understanding the Concepts

- 1) In order to vote, a person needs to be 18 years old. In 3 years, your friend will still not be old enough to vote.
- a) List about three different ages that would be the age of your friend right now.

Various Answers

- b) Which of the following represents your friend's situation?

$x + 3 < 18$ $x + 3 \leq 18$ $x + 3 > 18$ $x + 3 \geq 18$

- c) What does x represent? Explain your reasoning.

How old your friend is now.

- d) Graph the solution on a number line. Explain how you decided what to graph.



- 2) Baby manatees are about 4 feet long at birth. They grow to a maximum length of 13 feet.

- a) Which of the following can represent a baby manatee's growth?

$x + 4 < 13$ $x + 4 \leq 13$ $x - 4 > 13$ $x - 4 \geq 13$

- b) What does x represent? Explain your reasoning.

x represent how much of a manatee's growth.

- c) Graph the solution on a number line. Explain how you decided what to graph.



Solve the inequality. Show all algebraic work. Graph the solution.

3) $m - 9 < 2$
 $+9 \quad +9$
 $m < 11$



4) $r + 3 \geq 7$
 $-3 \quad -3$
 $r \geq 4$



5) $-1 < x - 2$
 $+2 \quad +2$
 $1 < x \text{ or } x > 1$



6) $y + 6 \leq 0$
 $-6 \quad -6$
 $y \leq -6$



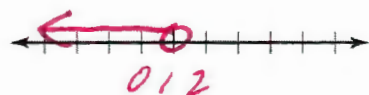
7) $y - 5 < -3$
 $+5 \quad +5$
 $y < 2$



8) $-5 \leq d + 3$
 $-3 \quad -3$
 $-8 \leq d \text{ or } d \geq 8$



9) $p + \frac{1}{4} < \frac{5}{4}$
 $-\frac{1}{4} \quad -\frac{1}{4}$
 $p < \frac{4}{4} \rightarrow p < 1$



10) $\frac{4}{5} \leq m - \frac{1}{5}$
 $+\frac{1}{5} \quad +\frac{1}{5}$
 $\frac{5}{5} \leq m \rightarrow m \geq 1$



11) $4.4 > 2.4 + b$
 $-2.4 \quad -2.4$
 $2 > b \rightarrow b < 2$



12) $r + \frac{2}{3} > \frac{8}{3}$
 $-\frac{2}{3} \quad -\frac{2}{3}$
 $r > \frac{6}{3} \rightarrow r > 2$



Write the word sentence as an inequality. Then solve the inequality. DO NOT GRAPH.

- 13) 6 more than a number is at most 10.

$$\begin{array}{r} x+6 \leq 10 \\ -6 \quad -6 \\ \hline \boxed{x \leq 4} \end{array}$$

- 14) Four less than a number is more than 3.

$$\begin{array}{r} x-4 > 3 \\ +4 \quad +4 \\ \hline \boxed{x > 7} \end{array}$$

- 15) 0.6 is no less than 2.4 subtracted from a number.

$$\begin{array}{r} 0.6 \geq x-2.4 \\ +2.4 \quad +2.4 \\ \hline 3 \geq x \rightarrow \boxed{x \leq 3} \end{array}$$

- 16) The sum of a number and 14 is at least 18.

$$\begin{array}{r} x+14 \geq 18 \\ -14 \quad -14 \\ \hline \boxed{x \geq 4} \end{array}$$

Describe and correct the error in solving the inequality.

17)
$$\begin{array}{r} \times \quad 3 > g - 4 \\ \quad +4 \quad +4 \\ \hline \quad 7 < g \end{array}$$

They switched the signs.

$$7 > g \rightarrow \boxed{g < 7}$$

18)
$$\begin{array}{r} \times \quad x + 5 \geq 11 \\ \quad -5 \quad +5 \\ \hline \quad x \geq 16 \end{array}$$

They should have subtracted 5 from both sides of the inequality

$$\boxed{x \geq 6}$$

- 19) You can spend at most \$10 at the mall. You want to buy a book that costs \$6.75 and a cold drink. Write and solve an inequality to represent the amount of money you can spend on your cold drink.

$$\begin{array}{r} d + 6.75 \leq 10 \\ -6.75 \quad -6.75 \\ \hline \boxed{d \leq \$3.25} \end{array}$$

- 20) An order from an online bookstore takes at least four weeks to arrive. You ordered some books online nine days ago. Write and solve an inequality to represent the possible number of days it will take for your books to arrive.

** 4 weeks is a total of 28 days*

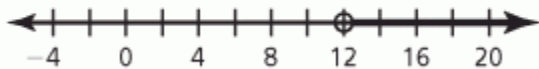
$$\begin{array}{r} x - 9 \geq 28 \\ +9 \quad +9 \\ \hline \end{array}$$

$$\boxed{x \geq 37 \text{ days}}$$

pg. 342 #1, 7, 9, 15-23 odd, 24, 27, 31, 35

1. The solution of $2x \geq 10$ includes the solution of $2x = 10$, $x = 5$, and all other x values that are greater than 5.

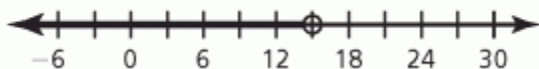
7. $n > 12$;



9. $c \geq 99$;



15. $x < 15$;



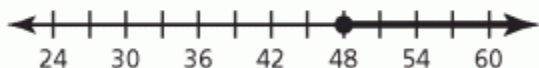
17. $v \leq 81$;



19. $w \leq 32$;



21. $x \geq 48$;



23. $8x < 168$; $x < 21$ ft

24. $\frac{x}{5} \geq 6$; $x \geq 30$ students

27. $225 \geq 12w$; $18.75 \geq w$

31. $80x > 2 \cdot 272$
 $x > 6.8$ yards per play

35. yes; $a > b$ and $x > y$

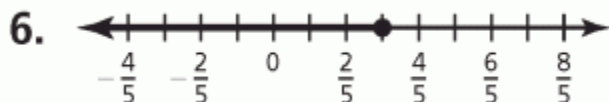
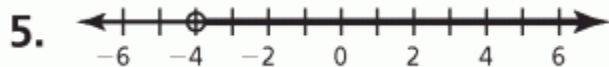
pg. 344 #1-17 all

1. $x > 0$

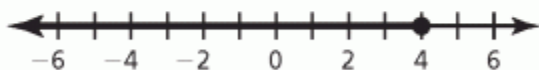
2. $2c \geq -8$

3. yes

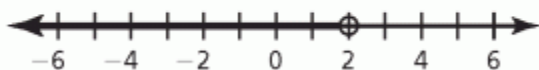
4. yes



7. $x \leq 4$;



8. $g < 2$;



9. $x - 2 > 15$; $x > 17$

10. $7 + x \leq 27$; $x \leq 20$

11. $a < 16$;



12. $s \leq 11$;



13. $3x > 18$; $x > 6$

14. $84 \geq 7k$; $12 \geq k$

15. $19.95x > 89.95$

16. $4s \leq 52$; $s \leq 13$ ft

17. $x + 12 \geq 30$; $x \geq 18$

Chapter 7 Study Guide

7.2 - Solving Equations Using Addition & Subtraction

Tell whether the given value is a solution of the equation.

1) $39 = 3.9t; t = 10$
 $39 = 3.9(10)$
 $39 = 39$
 Yes

2) $\frac{1}{4} = \frac{1}{8}m; m = 2$
 $\frac{1}{4} = \frac{1}{8} \cdot 2$
 $\frac{1}{4} = \frac{1}{4}$ Yes

Write the word sentence as an equation. Then solve the equation.

3) 27 less than a number h equals 3.5.
 $h - 27 = 3.5$
 $+27 \quad +27$
 $h = 30.5$

4) 46 equals 2.5 more than a number z .
 $46 = z + 2.5$
 $-2.5 \quad -2.5$
 $43.5 = z$

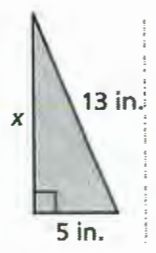
Solve the equation. Check your solution.

5) $x - 72 = 136$
 $+72 \quad +72$
 $x = 208$

6) $\frac{4}{5} + a = -15$
 $-\frac{4}{5} \quad -\frac{4}{5}$
 $a = -15\frac{4}{5}$

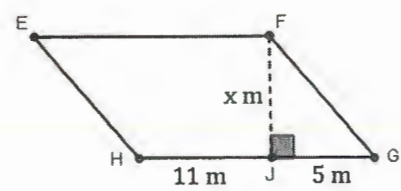
Write and solve an equation to find x . Show all steps of your work.

7) Area = 30 in.



$A = \frac{1}{2}bh$
 $30 = \frac{1}{2} \cdot 5 \cdot h$
 $\frac{30}{2.5} = \frac{2.5h}{2.5}$
 $12 \text{ in} = h$

8) Area = 128 in.



$A = bh$
 $128 = 16x$
 $\frac{128}{16} = \frac{16x}{16}$
 $8 \text{ m} = x$

7.3 - Solving Equations Using Multiplication or Division

Solve for each variable. Show all steps of your work. Check your answer.

$$9) \quad \frac{4}{124} = v \cdot \frac{124}{124}$$

$$\boxed{\frac{1}{31} = v}$$

$$10) \quad \frac{-3w}{20} = 12 \cdot 20$$

$$\frac{-3w}{-3} = \frac{240}{-3}$$

$$\boxed{w = -80}$$

- 11) Carl the Turkey has been saving \$12 each week for many weeks. One day, he decides to count his savings and finds that he has \$384. Write and solve a multiplication equation to find how many weeks w he has been saving.

$$\frac{12w}{12} = \frac{384}{12}$$

$$\boxed{w = 32 \text{ weeks}}$$

7.4 - Writing Equations in Two Variables

- 12) It costs \$60 to join Muscular Martha's gym. She charges an additional \$10 per month for membership.

- a) Write and graph an equation in two variables that represents the total cost of joining her gym for a month.

x	y
0	60
1	70
2	80

$$y = 10x + 60$$

↑
months

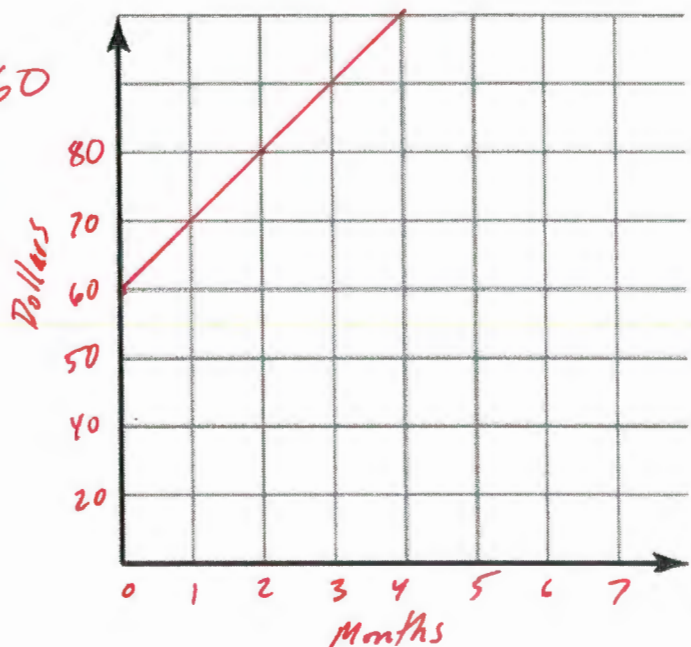
- b) Identify the independent and dependent variables.

x - independent variable
 y - dependent variable

- c) How much will it cost you to be a member of her gym for 25 months?

$$y = 10(25) + 60$$

$$\boxed{y = \$310}$$



Tell whether the ordered pair is a solution of the equation.

13) $y = 8x$; $(0, 0)$

$$0 = 8(0)$$

$$0 = 0$$

Yes

14) $y = 4x + 1$; $(1, 5)$

$$5 = 4(1) + 1$$

$$5 = 4 + 1$$

$$5 = 5$$

Yes

7.5 - Writing & Graphing Inequalities

Write the word sentence as an inequality.

15) A number b times 3.5 is no less than 21.

$$3.5b \geq 21$$

16) The product of 6 and number c is less than 12.

$$6c < 12$$

Tell whether the given value is a solution of the inequality.

17) $\frac{1}{2} > 3p$; $p = \frac{1}{6}$

$$\frac{1}{2} > 3\left(\frac{1}{6}\right)$$

$$\frac{1}{2} > \frac{3}{6}$$

$$\frac{1}{2} > \frac{1}{2}$$

No

18) $2.16 \geq 3z - 0.5$; $z = 0.6$

$$2.16 \geq 3(0.6) - 0.5$$

$$2.16 \geq 1.3$$

Yes

Write an inequality and a word sentence that represent the graph.



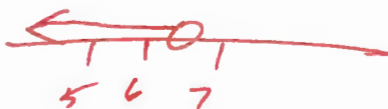
$$x < 2$$



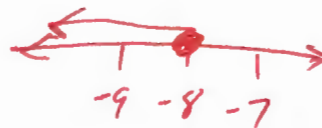
$$x \geq -1$$

Graph the inequality on a number line.

21) $6.5 > a \rightarrow a < 6.5$

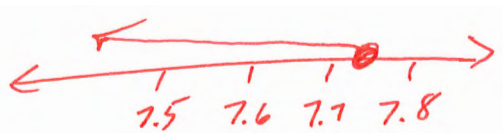


22) $u \leq -8$



23) A highway passes under a road. The clearance height is 7.75 feet. Write and graph an inequality that represents the height of a vehicle that can travel on the highway.

$$x \leq 7.75$$



7.6 - Solving Inequalities Using Addition or Subtraction

Solve the inequality. Show all steps of your work. Check your answer.

24) $t + 54 \leq 85.6$

$$\begin{array}{r} -54 \\ -54 \end{array}$$

$$\boxed{t = 31.6}$$

25) $q - 9.8 > 1.2$

$$\begin{array}{r} +9.8 \\ +9.8 \end{array}$$

$$\boxed{q > 11}$$

Write the word sentence as an inequality. Then solve the inequality.

26) The total of $\frac{3}{4}$ and a number is no more than 2.

$$\begin{array}{r} \frac{3}{4} + x \leq 2 \\ -\frac{3}{4} \quad -\frac{3}{4} \end{array}$$
$$\boxed{x \leq 1\frac{1}{4}}$$

27) A number minus $\frac{7}{12}$ is at least $3\frac{1}{2}$.

$$\begin{array}{r} x - \frac{7}{12} \geq 3\frac{1}{2} \\ +\frac{7}{12} \quad +\frac{7}{12} \end{array}$$
$$x \geq 3\frac{13}{12} \quad \boxed{x \geq 4\frac{1}{12}}$$

28) Hairy Harry is cooking a turkey. The turkey must reach a temperature of at least 165 degrees to be fully cooked. The temperature is 135 degrees. Write and solve an inequality to represent the number of degrees the temperature must increase for the turkey to be done.

$$\begin{array}{r} 135 + x \geq 165 \\ -135 \quad -135 \end{array}$$

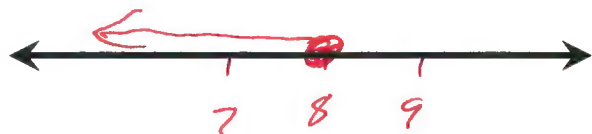
$$x \geq 30 \text{ degrees}$$

7.7 - Solving Inequalities Using Multiplication or Division

Solve the inequality. Graph the solution. Show all steps of your work.

$$29) \frac{4}{3} \cdot \frac{3}{4} m \leq 6 \frac{4}{3}$$

$$m \leq 8$$



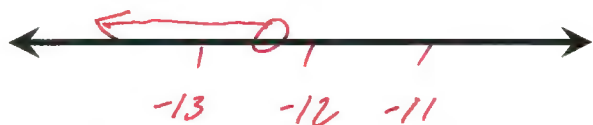
$$30) \frac{-42h}{-42} \geq \frac{105}{-42}$$

$$h \leq -2.5$$



$$31) \frac{r \cdot 4}{4} < -3.1 \cdot 4$$

$$r < -12.4$$



Write the word sentence as an inequality. Then solve the inequality.

32) 10 times a number q is at least 2.01.

$$\frac{10q}{10} \geq \frac{2.01}{10}$$

$$q = 0.201$$

33) The quotient of a number b and 3 is less than $\frac{1}{12}$

$$3 \cdot \frac{b}{3} < \frac{1}{12} \cdot 3$$

$$b < \frac{1}{4}$$

34) Mayoman, Tacoman, and Turkeyman decide to share the cost to rent an apartment equally. The apartments that they are considering cost at least \$1200 per month. Write and solve an inequality to represent each person's share of the rental cost.

$$\frac{3x}{3} \geq \frac{1200}{3}$$

$$x \geq \$400 \text{ each}$$

pg.558 #7-21 odd, 30-32

7. Terms: $2n$, $-n$, -4 , $7n$;
Like terms: $2n$, $-n$, and $7n$
9. Terms: $1.4y$, 5 , -4.2 , $-5y^2$, z ;
Like terms: 5 and -4.2
11. $2x^2$ is not a like term, because x is squared. The like terms are $3x$ and $9x$.
13. $11x + 2$
15. $-2.3v - 5$
17. $3 - \frac{1}{2}y$
19. $-p - 30$
21. $10.2x$; The weight carried by each hiker is 10.2 pounds.
30. 14.5 in., 14.8 in., 15 in., 15.3 in., 15.8 in.
31. 0.52 m, 0.545 m, 0.55 m, 0.6 m, 0.65 m
32. C

pg. 564-565 #11-25 odd, 28, 29,*31

11. $6x - 18$

13. 17

15. $m + 1$

17. $55w + 145$

19. $-3g - 4$

21. $-12y + 20$

23. $-2c$

25. The -3 was not distributed to both terms inside the parentheses.

$$\begin{aligned}(4m + 9) - 3(2m - 5) &= 4m + 9 - 6m + 15 \\ &= 4m - 6m + 9 + 15 \\ &= -2m + 24\end{aligned}$$

28. $8n$

29. $0.25x + 0.15$

31. $|x - 3|$, or equivalently
 $|-x + 3|$; 0; 6

pg. 567 #5-12 all, 13, 14

5. $4(5z - 2)$

6. $5(3w + 13)$

7. $4(9a + 4b)$

8. $7(3m - 7n)$

9. $\frac{1}{3}(b - 1)$

10. $\frac{3}{8}(d + 2)$

11. $2.2(x + 2)$

12. $4\left(h - \frac{3}{4}\right)$

13. $-\frac{1}{2}(x - 12)$

14. $-\frac{1}{4}(2x + 5y)$

pg. 574 #13-27 odd

13. $g = -10$

15. $y = -2.08$

17. $q = -\frac{7}{18}$

19. $w = -1\frac{13}{24}$

21. The 8 should have been subtracted rather than added.

$$\begin{array}{r} x + 8 = 10 \\ - 8 \quad - 8 \\ \hline x = 2 \end{array}$$

23. $c + 10 = 3; c = -7$

25. $p - 6 = -14; p = -8$

27. $p + 2.54 = 1.38;$
 $-\$1.16 \text{ million}$

pg. 580 #15-29 odd, 34, 35, 37, *40

15. $p = -8$

17. $n = 8$

19. $g = -16$

21. $f = 6\frac{3}{4}$

23. They should divide by -4.2 .

$$-4.2x = 21$$

$$\frac{-4.2x}{-4.2} = \frac{21}{-4.2}$$

$$x = -5$$

25. $\frac{2}{5}x = \frac{3}{20}; x = \frac{3}{8}$

27. $\frac{x}{-1.5} = 21; x = -31.5$

29. $\frac{x}{30} = 12\frac{3}{5}; 378 \text{ ft}$

34. All of them except “multiply each side by $-\frac{2}{3}$.”

35. $-1.26n = -10.08; 8 \text{ days}$

37. -50 ft

40. $1\frac{3}{5} \text{ days}$

pg. 586 #7, 13-25 odd, 26-28, 29-33 odd

7. $b = -3$

13. $p = 3\frac{1}{2}$

15. $h = -3.5$

17. $y = -6.4$

19. Each side should be divided by -3 , not 3.

$$-3x + 2 = -7$$

$$-3x = -9$$

$$\frac{-3x}{-3} = \frac{-9}{-3}$$

$$x = 3$$

21. $a = 1\frac{1}{3}$

23. $b = 13\frac{1}{2}$

25. $v = -\frac{1}{30}$

26. $-4x + 35 = -1$;
9 hours (10:00 P.M.)

27. $2.5 + 2.25x = 9.25$; 3 games

28. $30 + 0.25x = 59.5$;
118 text messages

29. $v = -5$

31. $d = -12$

33. $m = -9$

Name

Answers

Date

Chapter 13 Test Review/Study Guide

Section 13.1- Algebraic Expressions

Identify the terms and like terms in the expression.

1. $10x + 5 + 3x + 1$

terms: $10x, 5, 3x, +1$ like terms: $10x$ and $3x, 5$ and 1

2. $-2n + 7n - r + 10r$

terms: $-2n, 7n, -r, 10r$ like terms: $-2n$ and $7n, -r$ and $10r$

3. $-12h^2 - 4 + 9 - 3h^2$

terms: $-12h^2, -4, 9, -3h^2$ like terms: $-12h^2$ and $-3h^2, -4$ and 9

4. $1.4c + 11.4 - 2c - 7.3c$

terms: $1.4c, 11.4, -2c, -7.3c$ like terms: $1.4c - 2c - 7.3c$

(Learning Target: 7.EE.1, 7.EE.2: I can apply properties of operations to simplify algebraic expressions and solve real-life problems)

Simplify the expressions:

5. $8v - 15v$

$-7v$

6. $7d + 5 - 4d$

$3d + 5$

7. $12x + 9 - 3x - 4$

$9x + 5$

8. $3(x - 4) + 5x$

$= 3x - 12 + 5x$

$= 8x - 12$

(Learning Targets: 7.EE.1, 7.EE.2: I can apply properties of operations to add and subtract linear expressions and solve real-life problems.)

Section 13.2- Adding & Subtracting Linear Expressions

Find the sum or difference.

9. $(3x - 5) + (-4x + 1)$

$-x - 4$

10. $6(-2.1k - 2) + (7k + 5)$

$= (-12.6k - 12) + (7k + 5)$

$= -5.6k - 7$

11. $(2m + 7) + (3 + 4m)$

2m + 7 + 3 + 4m
6m + 10

12. $\frac{2}{3}(6c + 4) - (8c - 5)$

4c + \frac{8}{3} - 8c + 5
-4c + 7\frac{2}{3}

(Learning Target: 7.EE.1 I can factor linear expressions)

Factor out the coefficient of the variable.

13. $\frac{1}{2}d + 6$

\frac{1}{2}(d + 12)

14. $-3.6z - 10.8$

-3.6(z + 3)

(Learning Target: 7.EE.4a: I can write simple equations, solve equations using addition, subtraction, multiplication, or division, and solve real-life problems)

Word Problem Practice

15. You and your friends order food from a menu where each item costs the same amount. Write an expression in simplest form that represents the total amount of money the order will cost.

Total = 4x + 1x + 5x + 2x + 4x
= 16x

GUEST CHECK

Check No.	Date	Server	Item	Price	Tax	Total
240796			4 Soda	4x		
			1 Milkshake	1x		
			5 Cheeseburger	5x		
			2 Chicken Fingers	2x		
			4 French Fries	4x		

16. Eastside Bowling charges \$2.25 for shoes and \$3.00 per game. Westside Bowling charges \$1.75 for shoes and \$2.50 per game. Write an expression in simplest form that represents how much more Eastside Bowling charges than Westside Bowling.

s = shoes and g = game
(2.25s + 3g) - (1.75s + 2.50g)
= 0.5s + 0.5g

Section 13.3- Solving Equations by Addition & Subtraction

Solve the equation. Check your solution.

17. $u + 3 = 7$

u = 4

18. $a - \frac{3}{4} = \frac{1}{8}$

a = \frac{7}{8}

19. $90.8 + q = -18.24$

q = -109.04

20. $f - \frac{2}{15} = 6\frac{3}{5}$

f = 6\frac{11}{15}

Write the word sentence as an equation. Then solve the equation.

21. 20 equals 8 more than a number y .

$$20 = y + 8$$
$$\boxed{12 = y}$$

22. The sum of a number x and 12 equals 15.

$$x + 12 = 15$$
$$\boxed{x = 3}$$

23. The advertised price of a cell phone is \$149 after a \$50 mail-in rebate.
Write and solve an equation to find the price of the cell phone before the rebate is applied.

~~$x = 500 - 149$~~ $x = \text{the price before rebate}$

$$x - 50 = 149$$
$$\boxed{x = \$199}$$

13.4- Solving Equations Using Multiplication or Division

Solve the equation. Check your solution.

24. $-7n = 35$

$$n = -5$$

25. $\frac{y}{-3} = 33$

$$y = -99$$

26. $1.5q = -8.4$

$$q = -5.6$$

27. $\frac{5}{8}j = -10$

$$j = -16$$

Write the word sentence as an equation. Then solve.

28. A number multiplied by $\frac{1}{2}$ is $-\frac{5}{12}$.

$$\frac{1}{2}x = -\frac{5}{12}$$

$$x = -\frac{5}{6}$$

29. The quotient of a number and 0.2 is -2.6 .

$$\frac{x}{0.2} = -2.6$$

$$x = -0.52$$

Solve.

30. You are in a room with other students and are asked to get in groups of 3. When finished, there are 21 groups of 3. How many students are in the room?

$x = \text{students in a room}$

Equation: $\frac{x}{3} = 21$

Solution: $63 \text{ students in a room}$

(Learning Target: 7.EE.4a: I can solve two-step equations and solve real-life problems.)

Section 13.5-Solving Two Step Equations

Solve the equation. Check your solution.

31. $3k - 2 = 10$

$k = 4$

32. $12 = 2d + 3.2$

$4.4 = d$

33. $-1 - h = 14$

$h = -15$

34. $\frac{1}{2}b + \frac{9}{4} = \frac{7}{4}$

$b = -1$

35. It costs \$4 to enter the fair. Each ride costs \$2.50. You have \$21.50. How many rides can you go on?

$r = \# \text{ of rides}$

Equation: $2.50r + 4 = 21.50$

Solution: 7 rides

36. The cable company charges a monthly fee of \$45. Each movie rental is \$1.99. You owe \$68.88. How many movies did you rent?

$m = \# \text{ of movies}$

Equation: $1.99m + 45 = 68.88$

Solution: 12 movies