

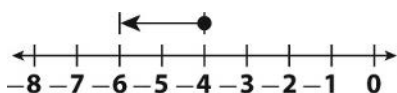
UNIT 1: The Number System

MODULE 1 Adding and Subtracting Integers

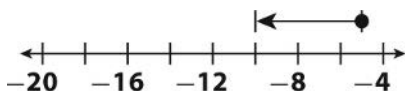
LESSON 1-1

Practice and Problem Solving: A/B

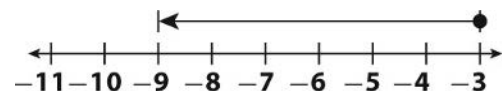
- a. 8
b. negative
c. -8
- a. 11
b. negative
c. -11
- 6



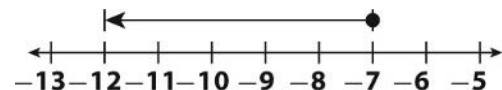
- 10



- 9



- 12



- 8
- 9
- 53
- 93
- 224
- 95
- 600
- 1310
- $-3 + (-2) + (-4) = -9$; the crew dug a total of 9 feet

Reteach

- a. positive
b. $3 + 6 = 9$
c. 9
- a. negative
b. $7 + 1 = 8$
c. -8
- a. negative
b. $5 + 2 = 7$
c. -7
- a. positive
b. $6 + 4 = 10$
c. 10
- 13
- 16
- 37
- 41
- 24
- 52

LESSON 1-2

Practice and Problem Solving: A/B

- 1
- 1
- 5
- 1
- 1
- 3
- 2
- 4
- 8
- 2
- 43
- 21
- 29
- 10
- 11°F
- 3 yards

- 17. -9 points
- 18. a. negative
- b. loss of 6, or -6

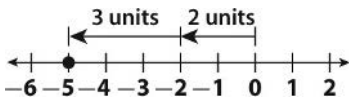
Reteach

- 1. subtract; the numbers have different signs
- 2. negative
- 3. 4
- 4. -5
- 5. -1
- 6. -4
- 7. 2
- 8. -5
- 9. 9
- 10. -10
- 11. -16
- 12. Sample answer: I look at 3 and 9 and see that $9 > 3$. Since the sign on 9 is negative, the answer is negative.

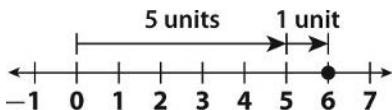
LESSON 1-3

Practice and Problem Solving: A/B

1. -5



2. 6



- 3. -10
- 4. 5
- 5. -4
- 6. 24
- 7. 0
- 8. 46
- 9. -1
- 10. 42
- 11. -6
- 12. -26
- 13. 30
- 14. -5
- 15. 9°C

- 16. 14°F
- 17. 4°C
- 18. 7°C
- 19. 240°C

Reteach

- 1. a. 5
- b. -1
- c. 20
- 2. a. negative
- b. 2
- c. -2
- 3. 40
- 4. -3
- 5. -26
- 6. 0
- 7. 31
- 8. -5

LESSON 1-4

Practice and Problem Solving: A/B

- 1. $-2 - 19 + 7 = -14$; 14 feet below the surface of the water
- 2. $45 - 8 + 53 - 6 = 84$; 84 points
- 3. 20
- 4. -27
- 5. 18
- 6. 110
- 7. 52
- 8. 34
- 9. <
- 10. >
- 11. a. $225 + 75 - 30 = 270$; 270 points
- b. Maya

Reteach

- 1. a. $10 + 5 - 19$
- b. $15 - 19 = -4$
- c. -4
- 2. a. $14 - 15 - 3$
- b. $14 - 18 = -4$
- c. -4

3. a. $10 - 80 = -6$
b. $10 - 86 = -76$
c. -76
4. a. $7 + 13 - 21$
b. $20 - 21 = -1$
c. -1
5. a. $13 + 2 - 5 - 6$
b. $15 - 11 = 4$
c. 4
6. a. $18 + 6 - 4 - 30$
b. $24 - 34 = -10$
c. -10

MODULE 2 Multiplying and Dividing Integers

LESSON 2-1

Practice and Problem Solving: A/B

1. -80
2. -72
3. 40
4. -39
5. 0
6. -80
7. 189
8. -11
9. -72
10. 80
11. -54
12. 49
13. $4(-6) = -24$; -24 points
14. $5(-3) = -15$; -15°
15. $8(-18) = -144$; $200 + (-144) = 56$; $\$56$
16. $3(-5) = -15$; $8 + (-15) = -7$; -7°
17. $6(-25) = -150$; $325 + (-150) = 175$; $\$175$

Reteach

1. -2
2. 18
3. -5
4. 54
5. 44

6. $4(-8) = -32$; -32 points
7. $5(-500) = -2,500$; $-2,500$ ft

LESSON 2-2

Practice and Problem Solving: A/B

1. -12
2. 19
3. -3
4. -4
5. 11
6. -8.75
7. -5
8. -10
9. -1
10. $32 \div (-4)$
11. $\frac{-30}{6} + (-8)$
12. $12 \div (-3) + (-14)4$
13. $\$3,000 \div 40 = \75 ; $\$75 - \$40 = \$35$
14. a. $-240 \div (-15) = 16$; 16 weeks
b. $\$245 + (-\$240) = \$5$; $20 \times -\$15 = \300 ;
 $\$300 - \$5 = \$295$

Reteach

1. right; negative; negative
2. left; negative; positive
3. left; positive; negative
- 4.

Divisor	Dividend	Quotient
+	+	+
-	+	-
+	-	-
-	-	+

LESSON 2-3

Practice and Problem Solving: A/B

1. 14
2. -16
3. -27
4. 15

5. -29
6. -40
7. >
8. >
9. $15(2 - 5) = -45$; \$45 less
10. $(-12) + (-11) + (-8) = -31$; falls by 31 ft
11. $5(3) + 2(-12) = -9$; 9-yd loss
12. $7(-3) + (-12) + 5 = -28$; \$28 less

Reteach

1. multiplication
2. addition
3. division
4. addition
5. multiplication
6. division
7. multiplication
8. subtraction
9. -1
10. -31
11. -31
12. 33
13. -62
14. -48

MODULE 3 Rational Numbers

LESSON 3-1

Practice and Problem Solving: A/B

1. 0.95
2. -0.125
3. 3.4
4. $-0.777\dots$ or $0.\overline{7}$
5. $0.7333\dots$ or $0.7\overline{3}$
6. $2.666\dots$ or $2.\overline{6}$
7. $\frac{29}{9}$; $3.222\dots$; repeating or $3.\overline{2}$
8. $\frac{301}{20}$; 15.05; terminating
9. $-\frac{53}{10}$; -5.3; terminating

10. a. Answers may vary. Sample answer:

$$2\frac{3}{4}, 2.75; 3\frac{2}{4}, 3.5$$

- b. Answers may vary. Sample answer:

$$4\frac{2}{3}, 4.666\dots \text{ or } 4.\overline{6}$$

11. They all convert to terminating decimals.

Reteach

1. $\frac{3}{4} = 0.75$ so $7\frac{3}{4} = 7.75$

2. $\frac{5}{6} = 0.833\dots$ or $0.8\overline{3}$ so $11\frac{5}{6} = 11.833\dots$
or $11.8\overline{3}$

3. $\frac{3}{10} = 0.3$ so $12\frac{3}{10} = 12.3$

4. $\frac{5}{18} = 0.277\dots$ or $0.2\overline{7}$ so $8\frac{5}{18} = 8.277\dots$
or $8.2\overline{7}$

5. Sample answer:

Method 1: Start with the fraction part.

$$\frac{2}{9} = 0.222\dots \text{ or } 0.\overline{2} \text{ so } 9\frac{2}{9} = 9.222\dots \text{ or } 9.\overline{2}$$

Method 2: $9\frac{2}{9} = \frac{83}{9}$. Using long division,

$$\frac{83}{9} = 9.222\dots \text{ or } 9.\overline{2}; \text{ the results agree.}$$

6. Sample answer:

Method 1: Start with the fraction part.

$$\frac{5}{8} = 0.625 \text{ so } 21\frac{5}{8} = 21.625.$$

Method 2: $21\frac{5}{8} = \frac{173}{8}$. Using long

division, $\frac{173}{8} = 21.625$; the results agree.

LESSON 3-2

Practice and Problem Solving: A/B

1. 1
2. -7
3. 9
4. $-2\frac{1}{2}$

5. $\frac{1}{9}$

6. -8.4

7. $-5\frac{1}{2}$

8. -3.1

9. $-\frac{11}{20}$

10. -3.3

11. 2.46

12. -1.85

13. -6.85

14. $-3\frac{1}{8}$

15. $\$3.75$

16. gain of 6

17. $\$6.85$

18. 3.8 mi from his house

Reteach

1. 2

2. -5

3. -7

4. 0.6

5. 4.7

6. -6

7. $\frac{3}{5}$

8. $-1\frac{2}{3}$

9. $-\frac{1}{2}$

LESSON 3-3

Practice and Problem Solving: A/B

1. -9

2. 9

3. 9

4. $-5\frac{1}{2}$

5. $-\frac{2}{7}$

6. 1.2

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

8. -3.7

9. $-5\frac{1}{2}$

10. 8.3

11. -9.08

12. 3.75

13. -6.2

14. $-1\frac{3}{5}$

15. -4.1°C

16. $1\frac{3}{5}$ m

Reteach

1. a. 5

b. -1

c. 20

2. a. negative

b. 2

c. -2

3. 40

4. -3

5. -26

6. 4.2

7. 2

8. -3.25

9. 1

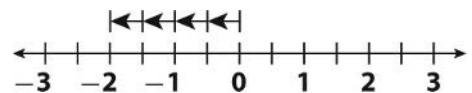
10. -2

11. $-\frac{5}{4}$

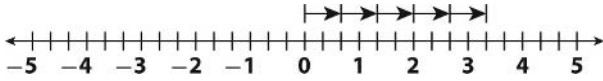
LESSON 3-4

Practice and Problem Solving: A/B

1. -2



2. $3\frac{1}{3}$



3. -6.2

4. -21.6

5. -19.8

6. 16.8

7. 36

8. -2.1

9. -8.2

10. 31.5

11. -20

12. $-\frac{4}{9}$

13. 9

14. $\frac{1}{2}$

15. $12\left(\frac{3}{4}\right) = 9$; 9 yards

16. $\left(\frac{1}{4}\right)\left(\frac{2}{3}\right)\left(\frac{3}{5}\right) = \frac{1}{10}$; $\frac{1}{10} \text{ m}^3$

17. $(-3 \text{ }^\circ\text{F/half hour}) \times (2 \text{ half hours/hour}) \times 4 \text{ hours} = -24 \text{ }^\circ\text{F}$; $75 \text{ }^\circ\text{F} - 24 \text{ }^\circ\text{F} = 51 \text{ }^\circ\text{F}$

Reteach

1. 6; right; $\frac{6}{4}$; $1\frac{1}{2}$

2. 8 times; 26.4; 26.4

3. 5 times; 23; 23

LESSON 3-5

Practice and Problem Solving: A/B

1. $-\frac{1}{6}$

2. 8

3. $\frac{1}{12}$

4. 0.35

5. -7.5

6. 0.25

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

8. $-\frac{4}{3}$

9. $-\frac{9}{20}$

10. 6

11. -1.75

12. 2

13. -1

14. $\frac{3}{14}$

15. $\frac{1}{98}$

16. $8 \div \frac{1}{4}$; 32 packets

17. $\frac{3}{4} \div 12$; $\frac{1}{16} \text{ h}$

18. $\frac{35}{1.25}$; 28 pieces

19. $4\frac{1}{8} \div 2\frac{1}{6} = \frac{99}{52}$ or $1\frac{47}{52}$ tons per acre

Reteach

1. +

2. -

3. -

4. +

5. $-\frac{1}{7} \div -\frac{5}{9} = -\frac{1}{7} \times -\frac{9}{5}$; $-\frac{1}{7} \times -\frac{9}{5} = \frac{-9}{-35}$;
 $\frac{-9}{-35} = \frac{9}{35}$.

A negative divided by a negative is positive.

6. $\frac{7}{8} \div \frac{8}{9} = \frac{7}{8} \times \frac{9}{8}$; $\frac{7}{8} \times \frac{9}{8} = \frac{63}{64}$;

$\frac{63}{64}$ is positive since a positive divided by a positive is positive.

LESSON 3-6

Practice and Problem Solving: A/B

1. Answers may vary. Sample answer: One estimate would be 4 times 6 or 24 feet long. The actual answer is greater than 24 feet.
2. Answers may vary. Sample answer: 3 liters divided by a third of a liter makes about 9 servings. The actual answer is more than 9 servings.
3. Answers may vary. Sample answer: The perimeter is greater than 15 inches.
4. Answers may vary. Sample answer: 3-gram eggs would be 36 grams, but 4 gram eggs would be 48 grams, so a dozen 3.5-gram eggs should be about 42 grams.
5. Answers may vary. Sample answer: 8 divided by one half is 16, so the number of peas is greater than 16.
6. These numbers can be used as they are since there would be 8 drops in a milliliter, or 240 drops in 30 milliliters.

7. The second strip is 0.25 longer than 3.5, or $3.5 + 0.875$, or 4.375 yards. The length of the third strip can be written as 6.25, so the total length is $3.5 + 4.375 + 6.25$, or 14.125 yards. 0.125 yards is one eighth of a yard, so the answer might be written as

$$14\frac{1}{8} \text{ yd.}$$

Reteach

1. $11\frac{2}{5}$ oz
2. 8 h
3. $15\frac{2}{5}$ t
4. $1\frac{1}{16}$ lb

UNIT 2: Rates and Proportional Relationships

MODULE 4 Ratios and Proportionality

LESSON 4-1

Practice and Problem Solving: A/B

- 2 eggs per batch
- 53 mph
- \$8/h
- 14 points per game
- \$0.20/oz
- $1\frac{3}{4}$ gal/h
- $\frac{1}{2}$ ft/min
- Food A: 200 cal/serving; Food B: 375 cal/serving; Food A has fewer calories per serving.

Reteach

- $\frac{70 \text{ students}}{2 \text{ teachers}}$
- $\frac{3 \text{ books}}{2 \text{ mo}}$
- $\frac{\$52}{4 \text{ h}}$
- $\frac{28 \text{ patients}}{2 \text{ nurses}} = \frac{28 \div 2}{2 \div 2} = \frac{14 \text{ patients}}{1 \text{ nurse}}$
- $\frac{5 \text{ qt}}{2 \text{ lb}} = \frac{5 \div 2}{2 \div 2} = \frac{2.5 \text{ qt}}{1 \text{ lb}}$
- $\frac{3 \text{ oz}}{\frac{3}{4} \text{ c}} = 3 \div \frac{3}{4} = \frac{3}{1} \times \frac{4}{3} = \frac{4 \text{ oz}}{1 \text{ c}}$
- $\frac{3\frac{2}{3} \text{ ft}}{\frac{11}{60} \text{ h}} = 3\frac{2}{3} \div \frac{11}{60} = \frac{11}{3} \times \frac{60}{11} = \frac{20 \text{ ft}}{1 \text{ h}}$

LESSON 4-2

Practice and Problem Solving: A/B

- a. yes
b. Sample answer: $c = 27t$

- c. t
d. c
- a. yes
b. Sample answer: $c = 4.35w$
c. w
d. c
- not proportional
- yes; Sample answers: $d = 40t$;
 $d = \text{distance}; t = \text{time}$
- $k = \frac{1}{3}$; Sample answers: $b = \frac{1}{3}p$;
 $b = \text{boxes}; p = \text{pens}$
- $k = 6$; Sample answers: $m = 6p$;
 $m = \text{muffins}; p = \text{packs}$

7. a.

Days	1	2	3	4	5
Hours	24	48	72	96	120

- b. yes
c. Sample answer: $h = 24d$ where d is the number of days and h is the number of hours

Reteach

- yes
- $\frac{3}{1} = 3$; $\frac{6}{2} = 3$; $\frac{9}{3} = 3$; $\frac{12}{4} = 3$
- Sample answer: $y = 3x$
- 3
- $y = 35x$
- $y = 7x$

LESSON 4-3

Practice and Problem Solving: A/B

1.

Time (h)	2	4	5	9
Pay (\$)	16	32	40	72

Earnings are always 8 times the number of hours.

2.

Weight (lb)	2	3	6	8
Price (\$)	1.40	2.10	4.20	5.60

Cost is always 0.7 times the number of pounds.

- Not proportional; The line will not pass through the origin.
- Proportional; The line will pass through the origin.
- The car uses 2 gal of fuel to travel 40 mi.
- $y = 20x$, where x is the gallons of fuel used, y is the distance traveled (in miles), and k is the constant of proportionality
- The graph for the compact car would be steeper.

Reteach

- hours worked; pay (in dollars); Sample answer: (2, 14), $\frac{14}{2} = 7$; $y = 7x$
- number of students; cost of admission (in dollars); Sample answer: (12, 24), $\frac{24}{12} = 2$; $y = 2x$

MODULE 5 Proportions and Percent

LESSON 5-1

Practice and Problem Solving: A/B

- 25%
- 150%
- 200%
- 122%
- 71%
- 53%
- 45%
- 75%
- 62%
- 90%
- 17%
- 19%
- \$100

- 128 bananas
- 14 books
- 65 companies
- 12,600 miles
- 639 points
- 399 students
- \$12.87; \$26.13
- \$40.80
- \$12,750

Reteach

- 14; 8; $\frac{14}{8}$; 175%
- 9; 90; $\frac{9}{90}$; 10%
- 75; 125; $\frac{75}{125}$; 60%
- 340; 400; $\frac{340}{400}$; 85%
- 25%
- 95%
- 80%
- 40%
- 200%
- 5%

LESSON 5-2

Practice and Problem Solving: A/B

- \$0.30; \$1.80
- \$1.30; \$4.55
- \$2.40; \$12.00
- \$9.75; \$22.25
- \$42.90; \$120.90
- \$4.49; \$7.48
- \$57.20
- \$19.99
- \$35.70
- \$276.68
- $0.57c$ or 0.57
- $1 + 0.57c$ or $1.57c$
- \$70.65
- \$25.65

Reteach

1. $\$45.00 + \$9.00 = \$54.00$
2. $\$7.50 + \$3.75 = \$11.25$
3. $\$1.25 + \$1.00 = \$2.25$
4. $\$21.70 + \$62.00 = \$83.70$
5. $\$150.00 - \$60.00 = \$90.00$
6. $\$18.99 - \$4.75 = \$14.24$
7. $\$95.00 - \$9.50 = \$85.50$
8. $\$75.00 - \$11.25 = \$63.75$
9. a. $\$3.15$
b. $\$2.52$

LESSON 5-3

Practice and Problem Solving: A/B

1.

Sale Amount	5% Sales Tax	Total Amount Paid
\$67.50	\$3.38	\$70.88
\$98.75	\$4.94	\$103.69
\$399.79	\$19.99	\$419.78
\$1,250.00	\$62.50	\$1,312.50
\$12,500.00	\$625.00	\$13,125.00

2.

Principal	Rate	Time	Interest Earned	New Balance
\$300	3%	4 years	\$36.00	\$336.00
\$450	5%	3 years	\$67.50	\$517.50
\$500	4.5%	5 years	\$112.50	\$612.50
\$675	8%	2 years	\$108.00	\$783.00

3. $\$1,250$
4. salesperson A; $\$7,428.30$
5. 18%
6. a. $\$780$
b. $\$900$
c. $\$450$
d. $\$300$
e. $\$570$

Reteach

1. $\$14.95$
2. 6.5%
3. amount = $\$14.95 \times 6.5\% = \0.97
4. $\$14.95 + \$0.97 = \$15.92$

UNIT 3: Expressions, Equations, and Inequalities

MODULE 6 Expressions and Equations

LESSON 6-1

Practice and Problem Solving: A/B

- $p + 4$
- $3L - 5$
- Answers will vary. Sample answer: \$25 minus six-tenths of x
- Answers will vary. Sample answer: four more than two thirds of y .
- $2,000 + 80z$
- $2.625a - 4.5b$
- $5(9c + 2d)$
- $3(9 - 3x + 5y)$
- $20 - 3j$
- $5 + 18y$

Reteach

- Answers will vary. Sample answer: one hundred minus five times the number of cars.
- Answers will vary. Sample answer: twenty-five hundredths of the apartments and six tenths of the condos.
- Answers will vary. Sample answer: one thirteenth of the difference between three times the number of hammers and eight times the number of pliers.

- $\frac{1}{10}\left(\frac{1}{2}s + \frac{1}{3}e\right)$
- $0.3f + 25$
- $(3e - 4) + (6 + 2w)$

LESSON 6-2

Practice and Problem Solving: A/B

- $n = 12$
- $y = 1.6$
- $a = 24$
- $v = -3$
- $\frac{15.5z}{15.5} = \frac{-77.5}{15.5}; z = -5$

6. $-11\left(\frac{t}{-11}\right) = -11(11); t = -121$

7. $\frac{0.5m}{0.5} = \frac{0.75}{0.5}; m = 1.5$

8. $4\left(\frac{r}{4}\right) = 4(250); r = 1,000$

9. $\frac{1}{3}n - 8 = -13$

10. $-12.3f = -73.8$

11. $10 = T + 12; T = -1^\circ\text{C}$

12. $3.2d = 48; d = 15$ days

13. $15t = 193.75; t = \$12.92$ (to the nearest cent)

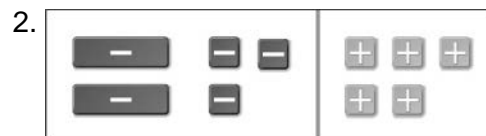
14. $\frac{1}{3}d = \frac{1}{4}; d = \frac{3}{4}$ mi

Reteach

- $m = 6\frac{7}{8}$
- $t = -0.6$
- $j = 13.1$
- $y = 12$
- $w = -20$
- $a = -6$

LESSON 6-3

Practice and Problem Solving: A/B



- $6t + 15 = 81$
- $40 + 55h = 190$
- $1.75 + 0.75m = 4.75$

Reteach

- $21 + 5f = 61$
- $7j + 17 = 87$
- $18 + 0.05n = 50.50$
- $40 + 30s = 220$

LESSON 6-4

Practice and Problem Solving: A/B

- $x = 3$
- $p = -3$
- $a = 4$
- $n = -2$
- $g = 2$
- $k = -18$
- $s = 18$
- $c = -8$
- $a = -6$
- $v = 9$
- $x = -2$
- $d = 24$
- $24s + 85 = 685$; $s = \$25$
- $x + x + 1 = 73$; 36 and 37

Reteach

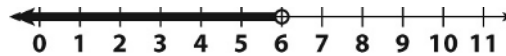
- Subtract 11 from both sides. Then divide both sides by 4. $x = 2$
- Subtract 10 from both sides. Then divide both sides by -3 . $y = 8$
- Multiply both sides by 3. Then add 11 to each side. $r = -10$
- Subtract 5 from each side. Then divide both sides by -2 . $p = -3$
- Subtract 1 from each side. Then multiply both sides by $\frac{3}{2}$
(or divide both sides by $\frac{2}{3}$). $z = 18$
- Multiply both sides by 9. Then add 17 to each side. $w = 35$

MODULE 7 Inequalities

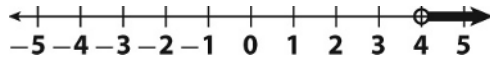
LESSON 7-1

Practice and Problem Solving: A/B

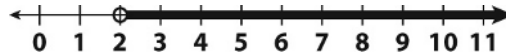
1. $e < 6$



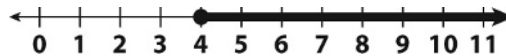
2. $n > 4$



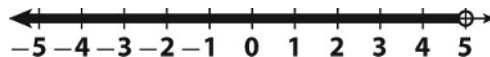
3. $2 < w$



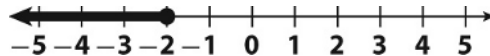
4. $4 \leq m$



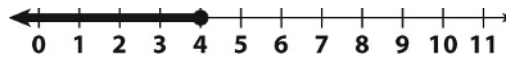
5. $r < 5$



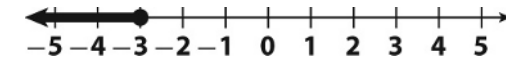
6. $-2 \geq t$



7. $4 \geq s$



8. $-3 \geq p$



9. $x \geq 3$

10. $r > -9$

11. $b < 5$

12. $a \leq 45$

13. $136 + x \geq 189$; $x \geq 53$; Arthur must earn at least \$53.

14. $-5x < -80$; $5x > 80$, $x > 16$; Marna needs more than 16 correct answers.

Reteach

- $n \geq -9$
- $n > 6$
- $n \leq -63$
- $n \geq 4$
- $n < 7$
- $n > -2$
- $n < -3$
- $n < 12$

LESSON 7-2

Practice and Problem Solving: A/B

- $10n + 4 \leq 25$
- $4n - 30 > -10$
- $-\frac{1}{4}(5 - n) < 20$
- Answers will vary. Sample answer: "The opposite of 5 times a number increased by 3 is greater than 1."
- Answers will vary. Sample answer: "Twenty-seven decreased by two times a number is less than or equal to the opposite of 6."
- Answers will vary. Sample answer: "Half of the sum of 1 and a number is 5 or greater."
- a. $10p$;
b. $10p - 75$;
c. $10p - 75 \geq 50$

Reteach

- $3n$; $5 -$; $3n - 5$; $3n - 5 > -8$
- $5n$; $+ 13$; $5n + 13$; $5n + 13 \leq 30$

LESSON 7-3

Practice and Problem Solving: A/B

- 5, 5; 24; 3, 24, 3; 8
- 12, 12; -16; -2, -16, -2; 8
- Because you are dividing by a positive number.
- Because you are dividing by a negative number.
- $-7d + 8 > 29$
 $-7d + 8 - 8 > 29 - 8$
 $-7d > 21$
 $d < -3$
- $12 - 3b < 9$
 $12 - 12 - 3b < 9 - 12$
 $-3b < -3$
 $b > 1$

$$7. \quad \frac{z}{7} - 6 \geq -5$$

$$\frac{z}{7} - 6 + 6 \geq -5 + 6$$

$$\frac{z}{7} \geq 1$$

$$z \geq 7$$

$$8. \quad 50x + 1,250 \geq 12,500 \text{ or } x \geq \$225$$

$$9. \quad 2n + 3.50 \leq 10$$

$$2n \leq 6.50$$

$$n \leq 3.25$$

She can buy no more than 3.25 lb.

Reteach

- $h \geq 5.5$, or 6 whole hours; 5 hours would not be enough to reach the 75-kilometer goal.
- $b \leq 9.29$ bags, so 9 bags would be the greatest number that could be sold and still leave \$10 worth of bird seed left over.

UNIT 4: Geometry

MODULE 8 Modeling Geometric Figures

LESSON 8-1

Practice and Problem Solving: A/B

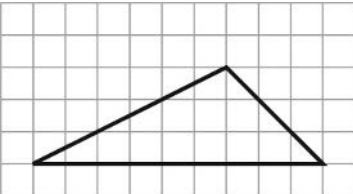

- 15 ft; 6 ft; 90 ft^2
- 16 m; 12 m; 192 m^2
- The scale drawing is 10 units by 8 units.
- a. 1 ft = 125 m
b. 84 sheets of plywood tall
- a. 40 bottle caps tall
b. approximately 3 popsicle sticks tall

Reteach

- 3 in.; 24 in.; $\frac{1}{8}$
- 4 cm; 20 cm; $\frac{1}{5}$
- 84 in.
- 75 mi

LESSON 8-2

Practice and Problem Solving: A/B

- 
- 

No triangle can be formed because the sum of the measures of the two shorter sides has the same measure as the longest side.

- Yes, because the sum of the measures of the two shorter sides is greater than the measure of the longest side,
e.g., $\frac{1}{3} + \frac{1}{4} > \frac{1}{2}$.

- No, because the sum of the measures of the two shorter sides is less than the measure of the longest side, e.g., $0.02 + 0.01 < 0.205$.
- Unique; since the sum of the angles is less than 180° and a side is included.
- Many, since the sum of the measures of the angles is less than 180° but no side is included.

Reteach

- Yes; if x is the length of each side, then $x + x > x$ or $2x > x$, so the condition for a triangle to be formed is met.
- No. The sum of the measures of the three angles is greater than 180° .

LESSON 8-3

Practice and Problem Solving: A/B

- cross section; The circle is a plane figure intersecting a three-dimensional curved surface. The figure formed is a curved line on the surface of the cone.
- intersection; The edge of a square is a straight line and the base of the pyramid is a plane figure. A straight line is formed.
- cross section; A square is formed.
- cross section; The circle is a plane figure. A polygon results that is similar to the polygon that forms the base.
- trapezoid
- triangle
- circle
- ellipse or oval

Reteach

- Drawings will vary. Sample answers: a triangular cross section formed by a plane that is perpendicular to the base of the pyramid and including its apex point; a rectangular cross section formed by a plane that is parallel to the base of the pyramid

2. Drawings will vary, Sample answers: a triangular cross section formed by a plane that is parallel to the prism's bases and congruent to them; a rectangular cross section formed by a plane that is perpendicular to the bases and having a length that is equal to the height of the prism

LESSON 8-4

Practice and Problem Solving: A/B

- $\angle AEB$ and $\angle DEF$
- $\angle AEB$ and $\angle BEC$
- Sample answer: $\angle AEF$ and $\angle DEF$
- 120°
- 13°
- 70°
- 115°
- 28
- 18
- 22
- 15

Reteach

- vertical angles
- 90° ; complementary angles
- 180° ; supplementary angles
- 80
- 20
- 6
- 25

MODULE 9 Circumference, Area, and Volume

LESSON 9-1

Practice and Problem Solving: A/B

- 18.84 in.
- 56.52 cm
- 4.71 ft
- 25.12 m
- 37.68 ft
- 12.56 yd
- 43.96 in.

- 26.26 cm
- 7.85 m
- 66 ft
- 132 mm
- 88 cm

Reteach

- 9; 28.26; 28.3
- 13; 26; 81.64; 81.6
- 40.8 cm
- 31.4 ft
- 9.4 in.

LESSON 9-2

Practice and Problem Solving: A/B

- A
- B
- 50.2 in.^2
- 153.9 m^2
- 254.3 yd^2
- $\pi \text{ cm}^2$
- $54.76\pi \text{ cm}^2$
- $25\pi \text{ in.}^2$
- $121\pi \text{ mm}^2$
- $6.25\pi \text{ ft}^2$
- $9\pi \text{ m}^2$

Reteach

- $64\pi \text{ in}^2$
- $3600\pi \text{ m}^2$
- 56.7 in.^2
- 314 yd^2
- 452.2 m^2
- 66.4 cm^2

LESSON 9-3

Practice and Problem Solving: A/B

Answers may vary for Exercises 1 and 2.

- 21 ft^2
- 24 ft^2
- 90 ft^2
- 208 m^2
- 140 ft^2

6. 23.13 m^2
7. 100 ft^2
8. 33.28 m^2
9. 57.12 m^2

Reteach

1. $9, 1\frac{1}{2}, \frac{1}{2}, 1, 9, 1\frac{1}{2}, \frac{1}{2}, 1, 12$
2. $32, 6, 32, 6, 38$

LESSON 9-4

Practice and Problem Solving: A/B

1. 142 in^2
2. 190 cm^2
3. $1,236 \text{ cm}^2$
4. $3,380 \text{ ft}^2$
5. Possible answer: I would find the total surface area of each cube and then subtract the area of the sides that are not painted, including the square underneath the small cube.
6. 384 in^2

Reteach

1. $5 \cdot 8 = 40 \text{ in}^2; 2 \cdot 40 = 80 \text{ in}^2$
2. $5 \cdot 3 = 15 \text{ in}^2; 2 \cdot 15 = 30 \text{ in}^2$
3. $3 \cdot 8 = 24 \text{ in}^2; 2 \cdot 24 = 48 \text{ in}^2$
4. $80 + 30 + 48 = 158 \text{ in}^2$
5. 158 in^2
6. 340 in^2
7. 592 cm^2

LESSON 9-5

Practice and Problem Solving: A/B

1. 84 in^3
2. 180 cm^3
3. 600 ft^3
4. 360 cm^3
5. 312 cm^3
6. 15.6 kg
7. 1.95 kg

Reteach

1. 80 m^3
2. 120 in^3
3. 72 cm^3

UNIT 5: Statistics

MODULE 10 Analyzing and Comparing Data

LESSON 10-1

Practice and Problem Solving: A/B

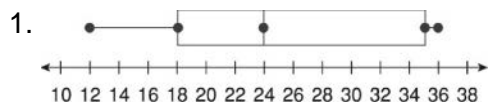
- 7; 25; 25
- 0.07; 0.15; 0.15 and 0.16 (bi-modal distribution)
- Both are 3.
- Plot A has 7 dots; plot B has 9 dots.
- Plot A's mode is 21; plot B's mode is 23 and 24 (bi-modal).
- Plot A's median is 21; plot B's median is 23.
- Plot A is skewed to the left so its central measures are shifted toward the lower values. Plot B is skewed to the right so its central measures are shifted toward the higher values.

Reteach

- Answers will vary. The data are not symmetric about the center. The distribution is skewed slightly to the right. The mode is 6, the median is 6, and the range is 10.

LESSON 10-2

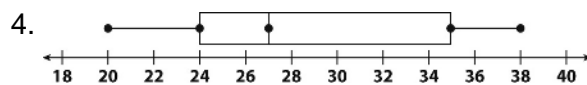
Practice and Problem Solving: A/B



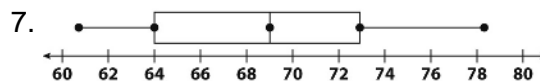
- Amy
- Ed
- Ed
- Amy; The range and interquartile range are smaller for Amy than for Ed, so Amy's test scores are more predictable.
- Port Eagle
- Port Eagle
- Surfside; The interquartile range is smaller for Surfside than for Port Eagle, so Surfside's room prices are more predictable.

Reteach

- 20, 24, 25, 27, 31, 35, 38
- 20, 38, and 27
- 24, 35



- 61, 63, 65, 68, 69, 70, 72, 74, 78
- 61, 78, 69, 64, and 73



LESSON 10-3

Practice and Problem Solving: A/B

- mean: 14.9; MAD: 1.9
- mean: 14.6; MAD: 1.92
- 0.3
- The means of the two data sets differ by about 6.3 times the variability of the two data sets.
- Sample answer: The median of the mean incomes for the samples from City A is higher than for City B. According to these samples it appears that adults in City A earn a higher average income than adults in City B. Also, there is a greater range of mean incomes in City A and a greater interquartile range.

Reteach

- The difference of the means is 4.8. This is 0.3 times the range of the first group, and 1.2 times the range of the second group.
- Based on the means, the people in the town Raul surveyed seem to receive fewer phone calls.

MODULE 11 Random Samples and Populations

LESSON 11-1

Practice and Problem Solving: A/B

1. Answers may vary, but students should realize that the number of road runners born within a 50-mile radius of Lubbock, Texas is a subset of the number of road runners born everywhere or in Texas.
2. Answers may vary, but students should realize that the cars traveling at 75 kilometers per hour between Beaumont and Lufkin, Texas is a subset of the cars traveling between Beaumont and Lufkin at all speeds.
3. Answers may vary, but Method B is probably more representative of the opinions of any student chosen at random from the entire school population.
4. Answers may vary, but Method C may be more representative of all voters than a sample that consists of 25-year town residents who may or may not be voters.
5. Biased; library patrons have a vested interest in seeing that the library is expanded.
6. Not biased, if the cable company samples customers, regardless of their history and experience with the company.

Reteach

1. The sample is biased. The passengers on one on-time flight are likely to feel differently about their flight than passengers on delayed flights.
2. The sample is not biased. It is a random sample.
3. The sample is not biased. It is a random sample.
4. The sample is biased. The people who go to movies are more likely to spend money on movies than on other entertainment.

LESSON 11-2

Practice and Problem Solving: A/B

1. Answers will vary, but student responses should mention the median and mode, both of which are 11 concerts attended. Since all but one of the data points indicate that from 10 to 13 concerts were attended, the data point corresponding to 8 concerts should be considered an outlier and not used in computing average concert attendance.
2. Answers will vary, but students should observe that the median is 6 miles jogged daily. The miles jogged daily ranges from 3 miles to 8 miles, but typically falls within the range of 5.5 miles to 7.5 miles.
3. True
4. False
5. True
6. Yes; $\frac{7}{50} = \frac{56}{400}$, and $56 > 50$.
7. $\frac{400}{3} = \frac{150,000}{x}$; $400x = 450,000$;
 $x = 1,125$; there will be 1,125 tokens with stamping errors.

Reteach

1. 750 chips would be defective.
2. about 1,563

LESSON 11-3

Practice and Problem Solving: A/B

1. The sample is representative of the expected number of integers from 1 to 25 in a sample of 5 integers, which would be none or zero
2. A sample of 80 integers would be expected to have two integers from 1 to 25.
3. Three numbers from 1 to 25 is higher than expected since a sample of 40 numbers would be expected to have one number from 1 to 25, and a sample of 80 numbers would be expected to have two numbers from 1 to 25.

4. 25 out of 36 collars (shown in boldface below), or 69.4% are acceptable to ship, so about 500 out of a production run of 720 would be expected to be acceptable to ship.

17, 14, 14, 16, 14, 15, 15, 15, 16, 14, 16,
14, 15, 15, 15, 16, 13, 13, 13, 13, 13, **14,**
14, 13, 17, **14, 15,** 13, **14, 15, 16,** 17, **14,**
17, 14, 15

5. 4 out of 36 collars (shown in boldface below), or 11% have too much biocide, so about 79 out of a production run of 720 would be expected to have too much biocide.

17, 14, 14, 16, 14, 15, 15, 15, 16, 14, 16,
14, 15, 15, 15, 16, 13, 13, 13, 13, 13, 14,
14, 13, **17,** 14, 15, 13, 14, 15, 16, **17,** 14,
17, 14, 15

Reteach

1. Answers will vary, but students should observe that in both outcomes, there are more 6's than most of the other numbers.
2. Answers will vary, but students may infer that the random sample outcomes will become more like the predicted results as the number of random samples increases.

UNIT 6: Probability

MODULE 12 Experimental Probability

LESSON 12-1

Practice and Problem Solving: A/B

1. certain; 1
2. as likely as not; $\frac{1}{2}$
3. impossible; 0
4. $\frac{2}{3}$
5. $\frac{4}{5}$
6. $\frac{1}{2}$
7. No, 6 of the 9 cards involve forward moves. The probability of moving backward is $\frac{1}{3}$.
8. No; Only two cards will let him win. The probability that he will not win on his next turn is $\frac{7}{9}$.

Reteach

1. unlikely; $\frac{1}{24}$
2. as likely as not; $\frac{1}{2}$
3. impossible; 0

LESSON 12-2

Practice and Problem Solving: A/B

1. $\frac{11}{15}$
2. $\frac{7}{20}$
3. $\frac{2}{7}$
4. a. $\frac{99}{130}$
b. $\frac{31}{130}$

5. a. $\frac{5}{8}$, 0.625, 62.5%
b. $\frac{3}{8}$, 0.375, 37.5%

Reteach

1. a. 12
b. 15
c. $\frac{12}{15} = \frac{4}{5}$
2. a. 9
b. 14
c. $\frac{9}{14}$
3. $P(\text{catch}) = \frac{4}{5}$; $P(\text{no catch}) = 1 - \frac{4}{5} = \frac{1}{5}$

LESSON 12-3

Practice and Problem Solving: A/B

1. $\frac{62}{354} = \frac{31}{177}$
2. $\frac{39}{160}$
3. $\frac{23}{137}$
4. $\frac{170}{190} = \frac{17}{19}$

Reteach

1. 200
2. $\frac{19}{200}$
3. $\frac{85}{200} = \frac{17}{40}$
4. $\frac{136}{200} = \frac{17}{25}$

LESSON 12-4

Practice and Problem Solving: A/B

1. 140 times
2. 135 serves
3. 64 days

4. 330 people
5. 298 times
6. 49 shots
7. In Classes 1 and 3, because the percents preferring digital were 80% and 81%

Reteach

1. $\frac{25}{100} = \frac{x}{120}$; 30; 30
2. 495; 495

MODULE 13 Theoretical Probability and Simulations

LESSON 13-1

Practice and Problem Solving: A/B

1. $\frac{1}{2}$
2. $\frac{1}{3}$
3. 0.3
4. $\frac{7}{9}$
5. D
6. C
7. E
8. B
9. A
10. $\frac{4}{23}$
11. $\frac{18}{23}$
12. $1 - \frac{4}{23} = \frac{19}{23}$
13. 0

Reteach

1. $\frac{8}{15}$
2. 12 bottles of orange juice and cranberry juice

3. a. $\frac{7}{20}$
b. $\frac{13}{20}$
4. 0.75
5. 0.05

LESSON 13-2

Practice and Problem Solving: A/B

1. (Taco, Cheese), (Taco, Salsa), (Taco, Veggie)
2. (Burrito, Cheese), (Taco, Cheese), (Wrap, Cheese)
3. $P(\text{Burrito/Cheese}) = \frac{1}{9}$; $P(\text{Taco or Wrap with salsa}) = \frac{2}{9}$

 $P(\text{Burrito/Cheese and Taco or Wrap with Salsa}) = \frac{1}{9} \times \frac{2}{9} = \frac{2}{81}$, since these are independent events.
4. $\frac{1}{8}$
5. $1 - \frac{3}{20} = \frac{17}{20}$
6. $P = \frac{1}{8} \times \frac{17}{20} = \frac{17}{160}$, since these are independent events.
7. $P = 0$. There are no pliers in the second basket.

Reteach

1–2.

		Ellen				
		M	P	R	S	W
Sam	M	○	⊗	⊗	○	○
	P		×	×		
	R		×	×		
	S	○	⊗	⊗	○	○
	W		×	×		

3. 4 possibilities
4. $P = \frac{4}{25}$

LESSON 13-3

Practice and Problem Solving: A/B

1. $\frac{1}{2}$
2. 32
3. $\frac{1}{5}$
4. 12
5. $\frac{1}{3}$
6. 13
7. $\frac{5}{8}$
8. 125
9. 26
10. about 26
11. about 153
12. 4

Reteach

1. $\frac{1}{2}$
2. 10
3. $\frac{1}{4}$
4. 20

LESSON 13-4

Practice and Problem Solving: A/B

1. a. He or she runs multiple trials with 5 random numbers between 1 and 10 in each.
- b.

Trial	Numbers Generated	Shrimp Caught	Trial	Numbers Generated	Shrimp Caught
1	7, 3, 2, 7, 10	1	6	8, 4, 7, 6, 5	0
2	2, 4, 5, 3, 10	1	7	6, 10, 1, 7, 6	1
3	9, 9, 7, 6, 6	0	8	7, 9, 8, 3, 8	0
4	7, 9, 6, 6, 4	0	9	1, 4, 4, 8, 9	1
5	10, 6, 4, 6, 4	0	10	7, 8, 9, 5, 3	0

2. $\frac{4}{10}$ or 0.4

3. a. Let "1" represent seats with a prize and numbers 2 – 10 seats without a prize. Run multiple trials with the numbers 1 – 10 until a "1" appears. Record the number of seats reserved with each trial until the "1" appears.
- b. Answers will vary, but a "1" has to appear in the list.

Reteach

1. Results will vary. Sample answer:

Trial	Numbers Generated	Result	Trial	Numbers Generated	Result
1	1, 1, 1, 1, 1	5	6	1, 0, 1, 0, 0	2
2	0, 0, 1, 1, 1	3	7	1, 1, 0, 1, 1	4
3	1, 0, 1, 0, 1	3	8	1, 1, 0, 0, 1	3
4	0, 0, 1, 0, 0	1	9	0, 1, 1, 0, 0	2
5	1, 0, 0, 0, 0	1	10	0, 1, 0, 0, 1	2

The experimental probability is 5 out 10, 0.5, 50 percent, or one half or more that an outcome has a 50–50 chance or greater of occurring.

2. Results will vary. Sample answer: Let 1 and 2 represent the probability that an event occurs; let 3–5 be the probability that it does not occur.

Trial	Numbers Generated	Result	Trial	Numbers Generated	Result
1	4, 4, 3, 4, 4	0	6	3, 2, 1, 5, 3	2
2	3, 5, 2, 4, 2	1	7	2, 1, 3, 4, 2	3
3	2, 5, 5, 4, 3	1	8	2, 2, 1, 5, 3	3
4	3, 3, 4, 4, 1	1	9	2, 3, 2, 4, 1	3
5	2, 2, 1, 4, 1	4	10	2, 5, 5, 1, 3	1

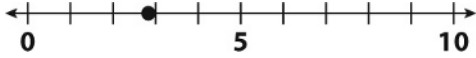
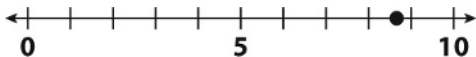
The experimental probability is 3 out of 10, 0.3, 30 percent, or three tenths that an outcome has a 3 in 5 chance of occurring.

UNIT 7: Real Numbers, Exponents, and Scientific Notation

MODULE 14 Real Numbers

LESSON 14-1

Practice and Problem Solving: A/B

1. 0.125
 2. 0.5625
 3. 0.55
 4. 5.32
 5. $0.9\bar{3}$
 6. $2.58\bar{3}$
 7. 0.03
 8. 3.2
 9. 5, -5
 10. 1, -1
 11. $\frac{5}{2}, -\frac{5}{2}$
 12. $\frac{11}{7}, -\frac{11}{7}$
 13. 2
 14. 6
 15. 1
 16. 13
 17. 5.66
 18. 10.86
 19. 4.24
 20. 17.86
 21. 2.83
- 
- A number line from 0 to 10 with tick marks every 1 unit. A solid black dot is placed at the 3rd tick mark, representing the number 2.83.
22. 8.66
- 
- A number line from 0 to 10 with tick marks every 1 unit. A solid black dot is placed at the 8th tick mark, representing the number 8.66.
23. $1\frac{23}{100}$ lb
 24. 288 in^2

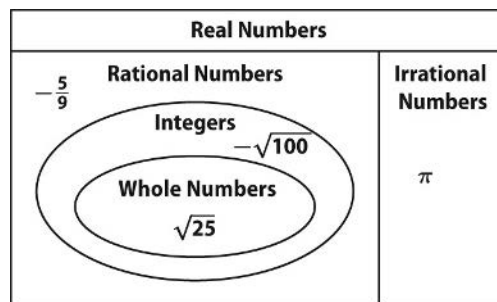
Reteach

1. 3.75
2. $0.8\bar{3}$
3. $3.\bar{6}$
4. 9, -9
5. 7, -7
6. $\frac{5}{6}, -\frac{5}{6}$
7. 3
8. 5
9. 9

LESSON 14-2

Practice and Problem Solving: A/B

1. real, rational
 2. real, irrational
 3. real, rational, integer
 4. real, rational, integer
 5. real, rational
 6. real, rational, integer, whole
 7. false; irrational real numbers include nonterminating decimals
 8. true Possible explanation: Integers include all whole numbers and their opposites.
 9. rational; all money amounts can be written as fractions
 10. real numbers; the temperature can be any number between 0 and 100 degrees Celsius
- 11–14.



Reteach

1. Yes
2. Yes; $\sqrt{16} = 4$, which can be written as $\frac{4}{1}$.
3. Yes
4. Is it a whole number? Yes.
5. real, rational, integer, whole

LESSON 14-3

Practice and Problem Solving: A/B

1. <
2. <
3. <
4. >
5. >
6. >
7. Great white, White-angled sulphur, Large orange sulphur, Apricot sulphur
8. Between Large orange sulphur and Apricot sulphur
9. $\frac{\sqrt{7}}{2}$, 2, $\sqrt{8}$
10. π , $\sqrt{12}$, 3.5
11. -20, $\sqrt{26}$, $\sqrt{35}$, 13.5
12. -5.25, $\frac{3}{2}$, $\sqrt{6}$, 5
13. $1 + \frac{\pi}{2}$, $\frac{5}{2}$, $\sqrt{12} - 1$, 2.25

Reteach

1. $\sqrt{8}$, π , 4
2. 5, $\pi + 2$, $\frac{17}{3}$
3. -2, $\sqrt{2}$, 1.7
4. $\frac{3}{2}$, $\sqrt{5}$, 2.5
5. $\sqrt{13}$, 3.7, $\pi + 1$
6. $\frac{\sqrt{5}}{2}$, $\pi - 2$, $\frac{5}{4}$

MODULE 15 Exponents and Scientific Notation

LESSON 15-1

Practice and Problem Solving: A/B

1. 125
2. $\frac{1}{49}$
3. 51
4. $\frac{1}{81}$
5. 1
6. 1
7. $\frac{1}{64}$
8. 64
9. 100,000
10. 6
11. 6
12. 3
13. 35
14. 5
15. $\frac{1}{16}$
16. 4096
17. 2^3 in^3 ; 10^3 in^3
18. 125
19. Sample answer: The box will hold the same number of balls as small boxes. With the balls, there is empty space.
20. 125; Sample answer: Find the volume of the box and of the cube. Divide the box volume by the cube volume.

Reteach

1. subtract; 27
2. add; $\frac{1}{8}$
3. multiply; 729
4. add; 625
5. subtract; $\frac{1}{16}$
6. multiply; 1296

LESSON 15-2

Practice and Problem Solving: A/B

1. 10^2
2. 10^4
3. 10^5
4. 10^7
5. 10^6
6. 10^3
7. 10^9
8. 10^0
9. 1000
10. 100,000
11. 10
12. 1,000,000
13. 100
14. 1
15. 10,000
16. 10,000,000
17. 2.5×10^3
18. 3×10^2
19. 4.73×10^4
20. 2.4×10^1
21. 1.4565×10^4
22. 7.001×10^3
23. 1.905×10^7
24. 3.3×10^1
25. 6000
26. 450
27. 70,000,000
28. 10,500
29. 3052
30. 5
31. 98.7
32. 54.3
33. 3.844×10^5 km
34. 6380 km

Reteach

1. 3.46; 4; 3.46×10^4
2. 1.0502; 6; 1.0502×10^6
3. 1057
4. 300,000,000
5. 524,000

LESSON 15-3

Practice and Problem Solving: A/B

1. 10^{-2}
2. 10^{-4}
3. 10^{-5}
4. 10^{-7}
5. 10^{-6}
6. 10^{-3}
7. 10^{-9}
8. 10^{-1}
9. 0.001
10. 0.00001
11. 0.1
12. 0.000001
13. 0.01
14. 0.000000001
15. 0.0001
16. 0.0000001
17. 2.5×10^{-2}
18. 3×10^{-1}
19. 4.73×10^{-4}
20. 2.4×10^{-3}
21. 1.4565×10^{-5}
22. 7.001×10^{-1}
23. 1.905×10^{-2}
24. 3.3×10^{-3}
25. 0.006
26. 0.045
27. 0.0000007
28. 0.00000105
29. 0.00000003052
30. 0.5
31. 0.000987

32. 0.0000543
33. 0.0000005 m
34. 1.7×10^{-5} m

Reteach

1. 2.79×10^{-2}
2. 7.1×10^{-5}
3. 5.06×10^{-7}
4. 0.000235
5. 0.0065
6. 0.0000707

LESSON 15-4

Practice and Problem Solving: A/B

1. 2.79×10^4
2. 3.83×10^6
3. 6.67×10^9
4. 4.48×10^4
5. 4.16×10^{17}

6. 2.0×10^3
7. 8.85×10^{10}
8. 6.0×10^7
9. $4.1E + 4$
10. $9.4E - 6$
11. 5.2×10^{-6}
12. 8.3×10^2
13. 7.0×10^4
14. 1.4×10^4
15. 1.6×10^4
16. about 3.0×10^4 , or about 30,000 strides

Reteach

1. 6.5×10^2
2. 1.5×10^6
3. 2.1×10^8

UNIT 8: Linear Relationships and Equations

MODULE 16 Proportional Relationships

LESSON 16-1

Practice and Problem Solving: A/B

1.

Feet	1	2	3	4	5	6
Inches	12	24	36	48	60	72

2. 12; 2; 36; 48; 5; 72; $\frac{12}{1}$ or 12

3. $y = 12x$, or $x = \frac{y}{12}$ or $x = \frac{1}{12}y$

4. yes; let $x =$ lemons and $y =$ sugar;
 $y = 1.5x$ or let $x =$ sugar and $y =$ lemons;
 $y = \frac{x}{1.5}$

5. yes; let $x =$ sugar and $y =$ water;
 $y = 4\frac{2}{3}x$ or $y \approx 4.7x$, or let $x =$ water
and $y =$ sugar; $y = \frac{3}{14}x$ or $y \approx \frac{x}{4.7}$

6. not a proportional relationship

Reteach

1.

Distance Driven (mi)	100	200	300	400	500	600
Gas Used (gal)	5	10	15	20	25	30

2. a. 10; 300; 20; $\frac{500}{25}$

b. 20

3 a. number of miles driven

b. $y = 20x$

LESSON 16-2

Practice and Problem Solving: A/B

1. -2

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

3. \$6.49

4. 65 mi/h

5. 30 gal/min

6. No; the size of the tank does not matter.
The rate of water flow will stay the same.

7. $n = -4$

Reteach

1. increase

2. down

3. When the slope is positive, as the value of y increases, the value of x increases.

4. When the slope is positive, as you move from left to right, the line goes up.

5. slope = 1

LESSON 16-3

Practice and Problem Solving: A/B

1. $\frac{4}{5}$; $\frac{4}{5}$ mi/h

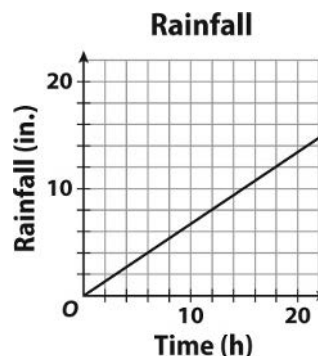
2. $\frac{6}{5}$; $\frac{6}{5}$ mi/h

3. Piyush walks faster. Laura's rate is equal to the slope 3.5, or 3.5 mph. Piyush's rate is equal to the slope of the line $\frac{9}{2}$ or 4.5 mph. $4.5 > 3.5$, so Piyush walks faster.

4. a.

Time (h)	3	6	9	12
Rainfall (in.)	2	4	6	8

b.



c. $\frac{2}{3}$

d. $\frac{2}{3}$ in./h

Reteach

- $\frac{3}{5}; \frac{3}{5}$
- $\frac{9}{4}; \frac{9}{4}$

MODULE 17 Nonproportional Relationships

LESSON 17-1

Practice and Problem Solving: A/B

1.

x	-2	-1	0	1	2
y	-5	-1	3	7	11

2.

x	-8	-4	0	4	8
y	-4	-3	-2	-1	0

3.

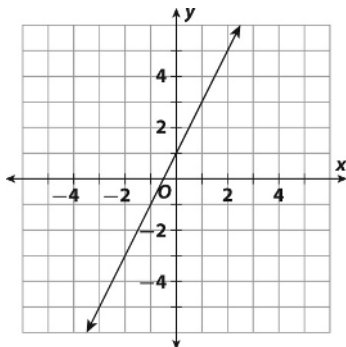
x	-4	-2	0	2	4
y	3	2	1	0	-1

4.

x	-2	-1	0	1	2
y	-1	2	5	8	11

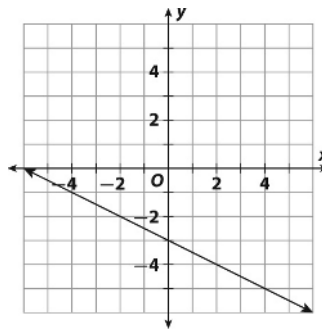
5.

x	-2	-1	0	1	2
y	-3	-1	1	3	5



6.

x	-4	-2	0	2	4
y	-1	-2	-3	-4	-5



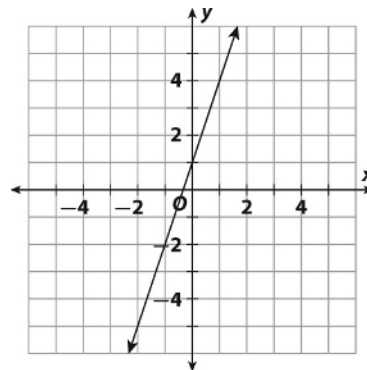
7. Solid line; Sample answer: The height of the tree can be measured at any moment in time.

8. Set of unconnected points; You cannot buy a fractional part of a DVD.

Reteach

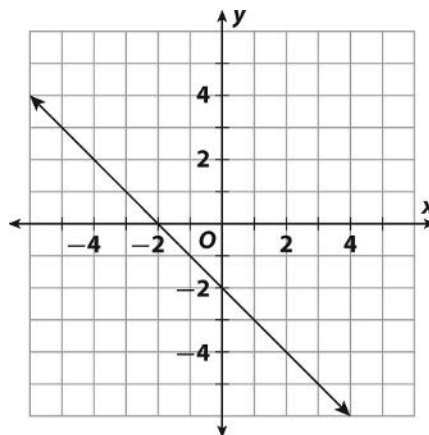
1.

x	-2	-1	0	1	2
y	-5	-2	1	4	7



2.

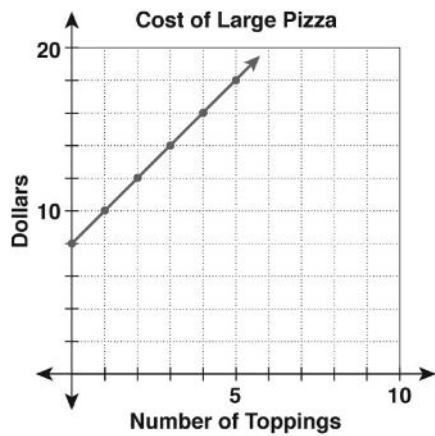
x	-2	-1	0	1	2
y	0	-1	-2	-3	-4



LESSON 17-2

Practice and Problem Solving: A/B

- 1; 3
- $-\frac{4}{5}$; 4
- 3; 1
- 0.5; 1
- The y -intercept represents the cost of a pizza with no toppings. The slope represents the rate of change (\$2 per topping).



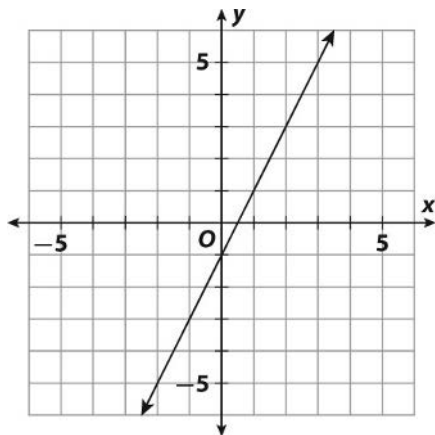
Reteach

- 2; 3
- $-\frac{2}{3}$; 2

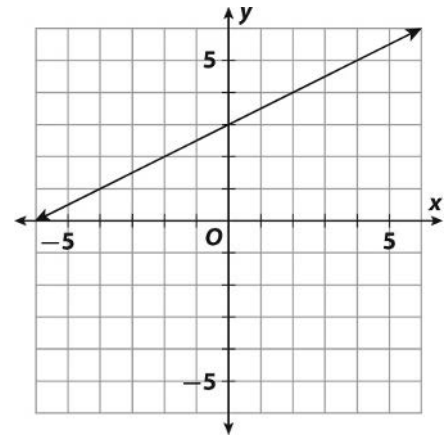
LESSON 17-3

Practice and Problem Solving: A/B

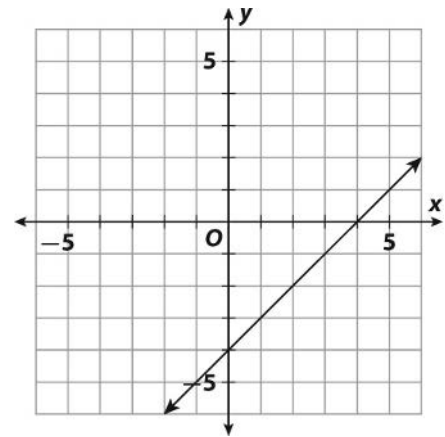
- 2; -1



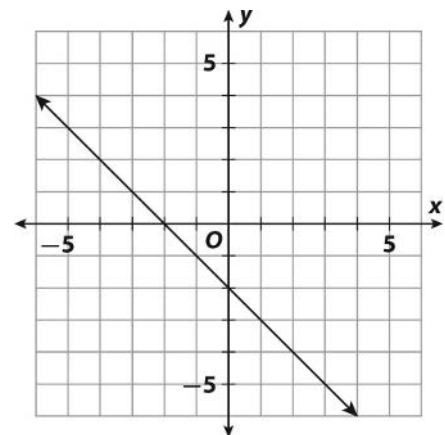
- $\frac{1}{2}$; 3



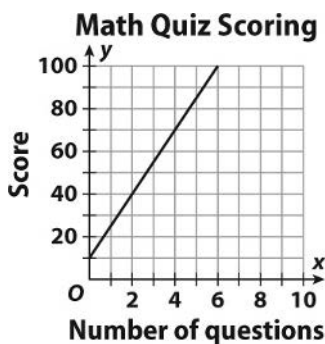
- 1, -4



- 1; -2



5. a.

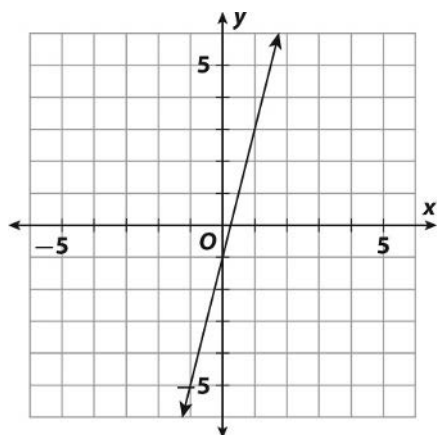


b. The slope, 15, means that each question is worth 15 points. The y-intercept, 10, is the number of points given for taking the test, and it is the minimum score.

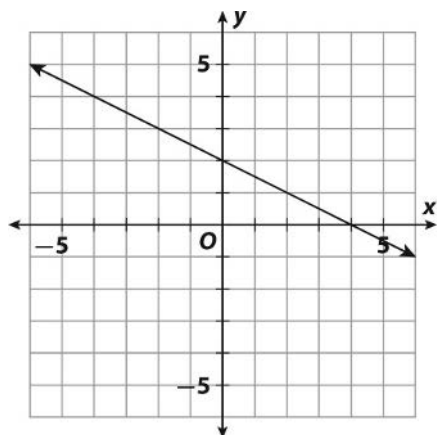
c. 85

Reteach

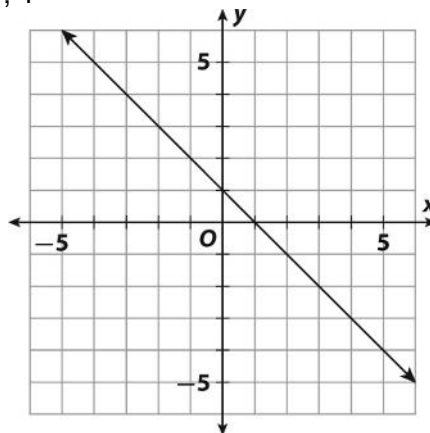
1. 4; -1



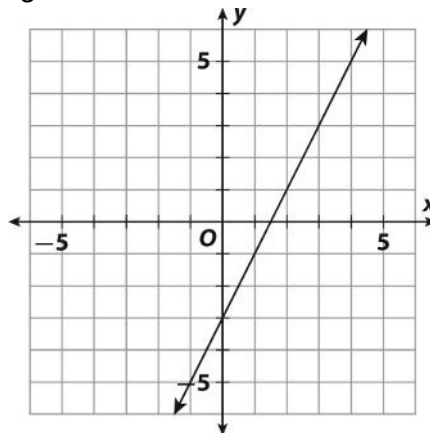
2. $-\frac{1}{2}$; 2



3. -1; 1



4. 2; -3



LESSON 17-4

Practice and Problem Solving: A/B

1. nonproportional; the line does not include the origin
2. proportional; the line includes the origin
3. proportional; when the equation is written in the form $y = mx + b$, the value of b is 0.
4. nonproportional; when the equation is written in the form $y = mx + b$, the value of b is not 0.
5. nonproportional; the equation is not linear.
6. nonproportional; the equation is not linear.
7. nonproportional; the relationship is not linear.
8. proportional; the quotient of y and x is constant, 9, for every number pair.

Reteach

1. non-proportional; the line does not include the origin
2. proportional; the quotient of y and x is constant, 12, for every number pair.
3. non-proportional; the equation is not linear.
4. proportional; when the equation is written in the form $y = mx + b$, the value of b is 0.

MODULE 18 Solving Linear Equations

LESSON 18-1

Practice and Problem Solving: A/B

1. $x = -4$
2. $x = 4$
3. $x = 1$
4. $4a - 3 = 2a + 7$
$$\begin{array}{r} -2a \quad -[2a] \\ \hline 2a - 3 = 7 \\ \quad +[3] + 3 \\ \hline 2a = [10] \\ \frac{2a}{[2]} = \frac{10}{[2]} \\ a = [5] \end{array}$$

5. $7x - 1 = 2x + 5$
$$\begin{array}{r} -[2x] \quad -2x \\ \hline 5x - 1 = [5] \\ \quad +[1] + 1 \\ \hline 5x = [6] \\ \frac{5x}{[5]} = \frac{6}{[5]} \\ x = \left[\frac{6}{5} \right] \end{array}$$

$$\begin{array}{r} 6. \quad -3r + 9 = -4r + 5 \\ \quad +[4r] \quad +4r \\ \hline r + 9 = 5 \\ \quad -[9] - 9 \\ \hline r = [-4] \end{array}$$

$$7. y = 7$$

$$8. x = -\frac{1}{7}$$

$$9. y = 1$$

$$10. 3n - 10 = n + 4; n = 7$$

$$11. 6n + 4 = n - 11; n = -3$$

$$12. 15 + 2h = 3h - 15; h = 30$$

Reteach

$$\begin{array}{r} 1. \quad 9m + 2 = 3m - 10 \\ \quad -[3m] \quad -[3m] \\ \hline 6m + 2 = -10 \\ \quad -[2] \quad -[2] \\ \hline 6m = [-12] \\ \frac{6m}{[6]} = \frac{-12}{[6]} \\ m = [-2] \end{array}$$

To collect on left side, subtract $3m$ from both sides.

Subtract 2 from both sides.

Divide by 6 .

Check: Substitute into the original equation.

$$\begin{array}{l} 9m + 2 = 3m - 10 \\ 9(-2) + 2 \stackrel{?}{=} 3(-2) - 10 \\ -18 + 2 \stackrel{?}{=} -6 - 10 \\ \mathbf{-16 = -16} \end{array}$$

$$\begin{array}{r} 2. \quad -7d - 22 = 4d \\ \quad +[7d] \quad +[7d] \\ \hline -22 = 11d \\ \frac{-22}{[11]} = \frac{11d}{[11]} \\ [-2] = d \end{array}$$

To collect on right side, add $7d$ to both sides.

Divide by 11 .

Check: Substitute into the original equation.

$$-7d - 22 = 4d$$

$$-7(-2) - 22 \stackrel{?}{=} 4(-2)$$

$$\underline{14} - 22 \stackrel{?}{=} \underline{-8}$$

$$\underline{-8} = \underline{-8}$$

LESSON 18-2

Practice and Problem Solving: A/B

1. 8

2. 12

3.

$$6\left(\frac{5}{6}x - 2\right) = 6\left(-\frac{2}{3}x + 1\right)$$

Multiply both sides by the LCM, 6.

$$5x - 12 = -4x + 6 \quad \text{Simplify.}$$

$$\begin{array}{r} +4x \qquad -4x \\ 5x - 12 = -4x + 6 \\ \hline 9x - 12 = 6 \end{array} \quad \text{Add } 4x \text{ to both sides.}$$

$$\begin{array}{r} 9x - 12 = 6 \\ +12 \qquad +12 \\ \hline 9x = 18 \end{array} \quad \text{Simplify.}$$

$$\begin{array}{r} 9x = 18 \\ \frac{9x}{9} = \frac{18}{9} \\ \hline x = 2 \end{array} \quad \text{Divide both sides by 9.}$$

4. $x = 1$

5. $n = -4$

6. $h = -1$

7. $w = 50$

8. $y = 15\frac{1}{2}$

9. $a = -8$

10. Tina sold bags of popcorn at a bake sale. In the morning, Tina paid the booth fee of \$18.50 and sold the bags for \$0.75 each. In the afternoon she sold the bags for \$0.65 each. Her profit in the morning was the same as her profit in the afternoon. How many bags of popcorn did Tina sell in the morning? $x = 185$; Tina sold 185 bags in the morning.

Reteach

1.

$$[20]\left(\frac{1}{4}x + 2\right) = [20]\left(\frac{2}{5}x - 1\right)$$

$$[20]\left(\frac{1}{4}x\right) + [20](2) = [20]\left(\frac{2}{5}x\right) - [20](1)$$

$$[5]x + [40] = [8]x - [20]$$

$$\begin{array}{r} -5x \qquad -5x \\ \hline 40 = 3x - 20 \\ +20 \qquad +20 \\ \hline \end{array}$$

$$[60] = 3x$$

$$\frac{60}{3} = \frac{3x}{3}$$

$$\underline{[20]} = \underline{[x]}$$

$$[20] = x$$

Multiply both sides of the equation by 20 the LCM of 4 and 5.

Multiply each term by 20 .

Simplify.

Subtract $5x$.

Simplify.

Add 20 .

Simplify.

Divide both sides by 3 .

Simplify.

Check: Substitute into the original equation.

$$\frac{1}{4}x + 2 = \frac{2}{5}x - 1$$

$$\frac{1}{4}(\underline{20}) + 2 \stackrel{?}{=} \frac{2}{5}(\underline{20}) - 1$$

$$\underline{5} + 2 \stackrel{?}{=} \underline{8} - 1$$

$$\underline{7} = \underline{7}$$

LESSON 18-3

Practice and Problem Solving: A/B

1. $x = 6$

2. $n = 9$

3. $y = -5$

4. $k = 3$

5. $m = -1$

6. $y = -5$

7. 20 mi
8. 28 mi
9. 1 error
10. 50 wpm
11. 365 words

Reteach

1. $i = -3$
2. $n = 4$
3. $y = \frac{2}{3}$
4. $x = 14$

LESSON 18-4

Practice and Problem Solving: A/B

1. zero solutions
2. infinitely many solutions
3. zero solutions
4. $n = -8$; one solution
5. zero solutions
6. infinitely many solutions
7. $y = 6$; one solution
8. zero solutions
9. infinitely many solutions
10. $x = 10$; one solution
11. Yes; 500 text messages will cost exactly the same from both companies
12. No, the two tanks will never need the exact same amount of food

Reteach

1. $i = 6$; one solution
2. infinitely many solutions
3. Answers may vary; should have one solution
4. Answers may vary; should have no solution
5. Answers may vary; should have infinitely many solutions

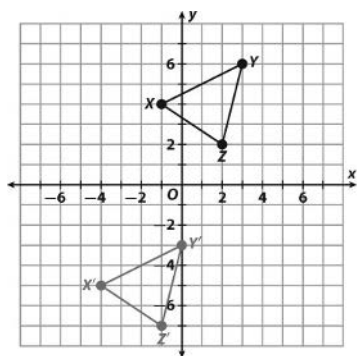
UNIT 9: Transformational Geometry

MODULE 19 Transformations and Congruence

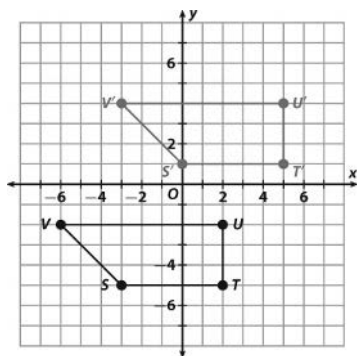
LESSON 19-1

Practice and Problem Solving: A/B

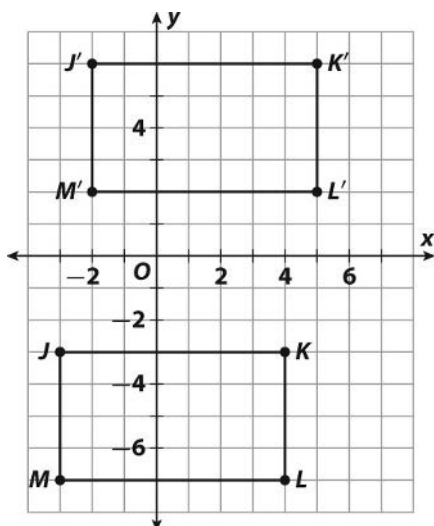
- 5 units right and 8 units down
- 2 units left and 9 units up
-



4.



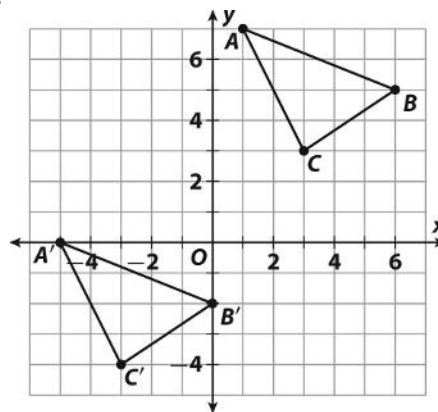
5. a.



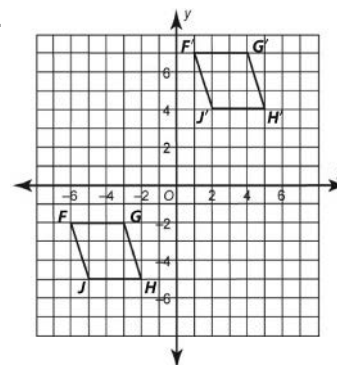
- Area of $JKLM = 28$ square units, area of $J'K'L'M' = 28$ square units
- No; the image and preimage are congruent, so they have the same size. This means that the areas are the same.

Reteach

1.



2.



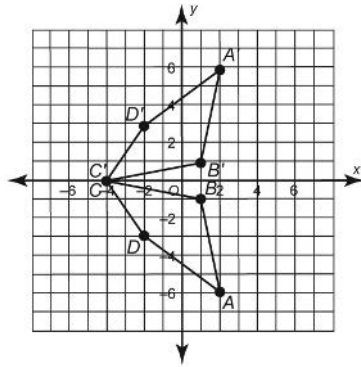
- Yes; translations preserve the size and shape of a figure. Even after two translations, the resulting figure is congruent to the original figure.

LESSON 19-2

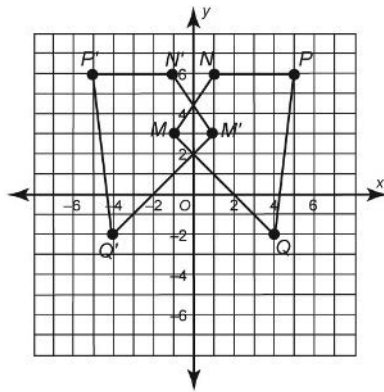
Practice and Problem Solving: A/B

- Quadrilateral G
- Quadrilaterals F and G
- One is a translation of the other.

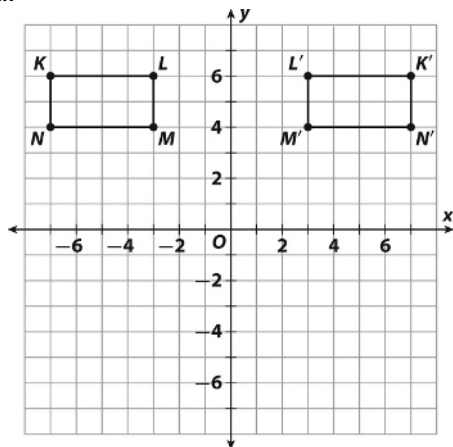
4.



5.



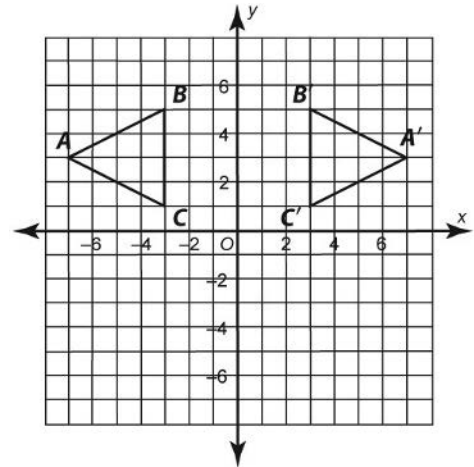
6. a.



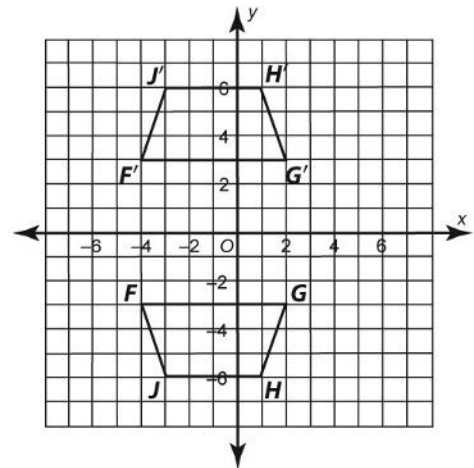
- b. Perimeter of $KLMN = 12$ units,
perimeter of $K'L'M'N' = 12$ units
- c. No; the image and preimage are
congruent, so they have the same
size. This means that the perimeters
are the same.

Reteach

1.



2.

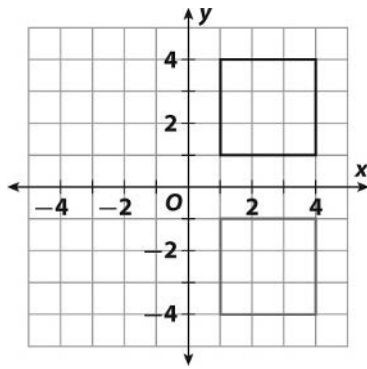


LESSON 19-3

Practice and Problem Solving: A/B

1. B
2. C
3. B
4. D
5. 30 cm, 40 cm, and 50 cm
6. III
7. I
8. IV
9. II
10. 60° and 120°

11.



12. Accept: reflection over x -axis, translation of 5 units down, or rotation of 270° counterclockwise.

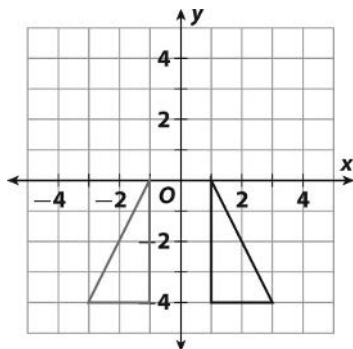
Reteach

1. D
2. B
3. C
4. B
5. 3 cm, 4 cm, 5 cm
6. Sample answer: A rotation of 180° turns the figure a half-turn and will be the same whether turned clockwise or counterclockwise.

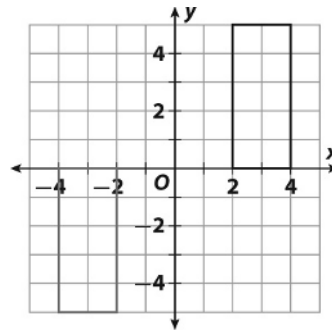
LESSON 19-4

Practice and Problem Solving: A/B

1. $(x, y) \rightarrow (x, y - 5)$; translation down 5 units
2. $(x, y) \rightarrow (-y, x)$; rotation 90° counterclockwise
3. reflection over the y -axis



4. rotation of 180°



5. $A'(2, 1)$, $B'(-3, 2)$, $C'(-1, 6)$
6. a 90° clockwise rotation

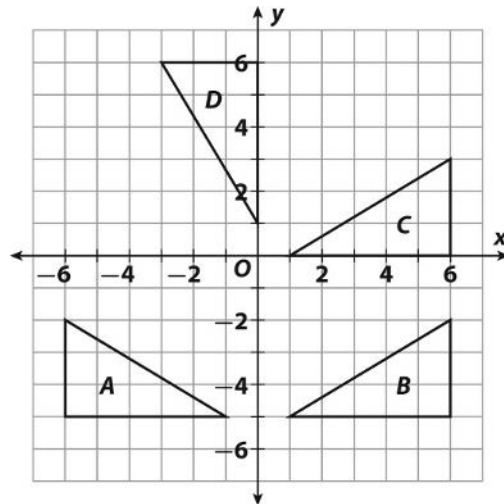
Reteach

1. reflection over the y -axis
2. 90° rotation counterclockwise
3. translation up 4 units
4. 180° rotation
5. reflection over the x -axis

LESSON 19-5

Practice and Problem Solving: A/B

1. rotation 90° counterclockwise
2. translation right 4 units
3. $(x, y) \rightarrow (-y, x)$; $(x, y) \rightarrow (x + 4, y)$
- 4-6.



7. yes
8. different
9. Sample answer: rotation 90° clockwise, translation 4 units left
10. size: no; orientation: yes

Reteach

1. reflection over the y -axis; $(x, y) \rightarrow (-x, y)$; different
2. 90° rotation counterclockwise; $(x, y) \rightarrow (-y, x)$; different

MODULE 20 Transformations and Similarity

LESSON 20-1

Practice and Problem Solving: A/B

1. 2, 2; 6, 6
2. $\frac{6}{2} = 3$; $\frac{6}{2} = 3$
3. Yes
4. enlargement
5. No, the ratios are not all equal.
 $\frac{3}{12} = \frac{1}{4}$; $\frac{4}{16} = \frac{1}{4}$; $\frac{5}{25} = \frac{1}{5}$
6. Yes, this shows a reduction. The ratio of the lengths of corresponding sides is $\frac{1}{2}$.
7. Yes, this shows an enlargement. The ratio of the lengths of corresponding sides is $\frac{3}{1}$.
8. Yes; The lines drawn through corresponding vertices meet in a single point.

Reteach

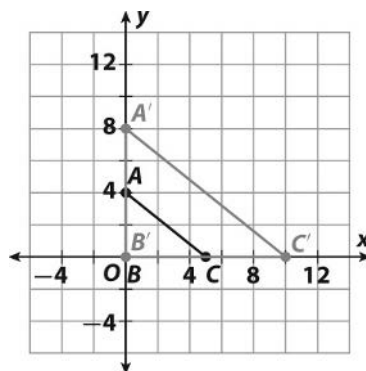
1. $\frac{4}{3} = 1\frac{1}{3}$; $\frac{3}{4} = \frac{3}{4}$; no; no
2. $\frac{2}{4} = \frac{1}{2}$; $\frac{4}{8} = \frac{1}{2}$; yes; yes

LESSON 20-2

Practice and Problem Solving: A/B

1. $A(0, 4)$, $B(0, 0)$, $C(5, 0)$
2. $A'(0, 8)$, $B'(0, 0)$, $C'(10, 0)$

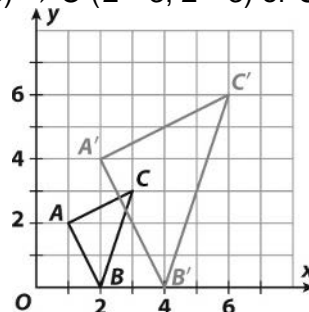
3.



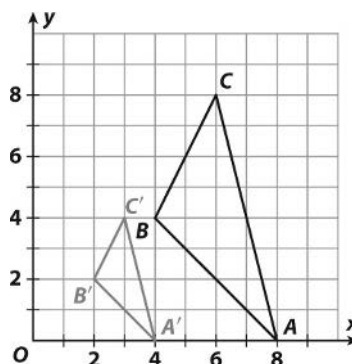
4. $(2x, 2y)$
5. $J(-2, -2)$, $K(-2, 2)$, $L(2, 2)$, $M(2, -2)$
6. $J'(-6, -6)$, $K'(-6, 6)$, $L'(6, 6)$, $M'(6, -6)$
7. $(3x, 3y)$
8. 1 cm = 20 cm
9. $(20x, 20y)$
10. 300 cm by 400 cm or 3 m by 4 m

Reteach

1. $A(1, 2) \rightarrow A'(2 \cdot 1, 2 \cdot 2)$ or $A'(2, 4)$
 $B(2, 0) \rightarrow B'(2 \cdot 2, 2 \cdot 0)$ or $B'(4, 0)$
 $C(3, 3) \rightarrow C'(2 \cdot 3, 2 \cdot 3)$ or $C'(6, 6)$



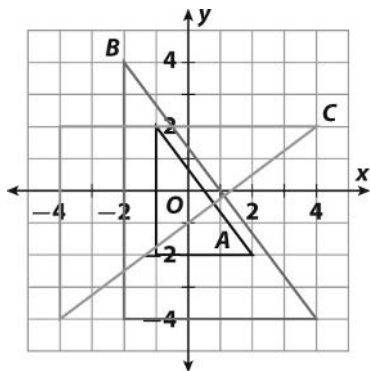
2. $A(8, 0) \rightarrow A'\left(\frac{1}{2} \cdot 8, \frac{1}{2} \cdot 0\right)$ or $A'(4, 0)$
 $B(4, 4) \rightarrow B'\left(\frac{1}{2} \cdot 4, \frac{1}{2} \cdot 4\right)$ or $B'(2, 2)$
 $C(6, 8) \rightarrow C'\left(\frac{1}{2} \cdot 6, \frac{1}{2} \cdot 8\right)$ or $C'(3, 4)$



LESSON 20-3

Practice and Problem Solving: A/B

- $(x, y) \rightarrow (2x, 2y)$
- $(x, y) \rightarrow (x - 4, y)$
- Figures *B* and *C*
- Figures *A* and *B* or Figures *A* and *C*
- 5–6.



- Figures *B* and *C*
- Figures *A* and *B* or Figures *A* and *C*
- $(x, y) \rightarrow (x, -y)$
- $AB = 250$ cm; $BD = 250$ cm; $AD = 300$ cm
- $(x, y) \rightarrow (y, -x)$

Reteach

- dilation by scale of $\frac{1}{3}$; $(x, y) \rightarrow \left(\frac{1}{3}x, \frac{1}{3}y\right)$; similar
- translation down 7 units; $(x, y) \rightarrow (x, y - 7)$; congruent

UNIT 10: Measurement Geometry

MODULE 21 Angle Relationships in Parallel Lines and Triangles

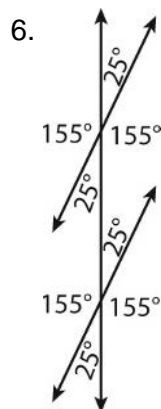
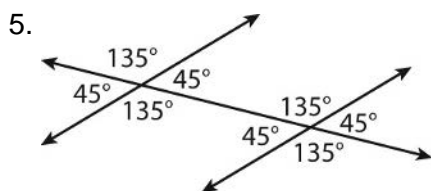
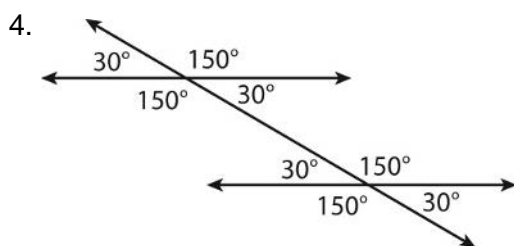
LESSON 21-1

Practice and Problem Solving: A/B

- $\angle 2$ and $\angle 6$, $\angle 3$ and $\angle 7$
- $\angle 1$
- alternate exterior angles
- Accept: same-side interior angles OR supplementary angles.
- Accept $\angle 2$ OR $\angle 6$.
- Accept: $\angle 4$ OR $\angle 8$.
- 146°
- 128°
- 135°
- 45°
- $\angle 2$ and $\angle 7$, $\angle 1$ and $\angle 8$
- $\angle 8$
- alternate interior angles
- Yes; Accept any two pairs of supplementary angles.

Reteach

- $\angle 3$, $\angle 5$, $\angle 7$
- $\angle c$, $\angle e$, $\angle g$
- $\angle y$, $\angle t$, $\angle r$



LESSON 21-2

Practice and Problem Solving: A/B

- 55°
- 136°
- 74°
- 16°
- 40°
- 112°
- 103°
- 68°
- 82°
- 103°
- 77°
- 60°

Reteach

- $55^\circ + 72^\circ = 127^\circ$; $180^\circ - 127^\circ = 53^\circ$; 53°
- $82^\circ + 53^\circ = 135^\circ$; $180^\circ - 135^\circ = 45^\circ$; 45°
- $y = 150^\circ$
- 150° ; 30°

LESSON 21-3

Practice and Problem Solving: A/B

- $\triangle ABC$ has angle measures 42° , 50° , 88° , and $\triangle FGH$ has angle measures 42° , 50° , 88° . The triangles are similar because two angles in one triangle are congruent to two angles in the other triangle.

- $\triangle XYZ$ has angle measures 41° , 55° , 84° , and $\triangle PRQ$ has angle measures 38° , 55° , 87° . The triangles are not similar because the triangles have only one congruent pair of angles.
- Both triangles contain both $\angle N$ and a right angle, so $\triangle LQN$ is similar to $\triangle MPN$.
- 4 ft
- No; $\angle J$ is in both $\triangle LQJ$ and $\triangle KRJ$, but there is not enough information given to find any other congruent angles. $\angle R$ looks like a right angle, but it is not given.
- $\angle TSV$ and $\angle TRW$ are congruent because they are corresponding angles, and both triangles contain $\angle T$. By AA similarity, $\triangle RTW$ is similar to $\triangle STV$.

Reteach

1.

	Lamp	Sign
Height (ft)	x	8
Length of shadow (ft)	31.5	14

18 ft

2.

	Woman	Son
Height (ft)	5.5	x
Length of shadow (ft)	$3 + 13.5 = 16.5$	13.5

4.5 ft

MODULE 22 Volume

LESSON 22-1

Practice and Problem Solving: A/B

- $2,122.6 \text{ cm}^3$; $3.14 \cdot (6.5)^2 \cdot 16 = 3.14 \cdot 42.25 \cdot 16 = 2,122.64 \approx 2,122.6$
- 37.7 cm^3 ; $3.14 \cdot (2)^2 \cdot 3 = 3.14 \cdot 4 \cdot 3 = 37.68 \approx 37.7$
- 9.4 ft^3 ; $3.14 \cdot (1)^2 \cdot 3 = 3.14 \cdot 1 \cdot 3 = 9.42 \approx 9.4$
- 70.7 in.^3 ; $3.14 \cdot (1.5)^2 \cdot 10 = 3.14 \cdot 2.25 \cdot 10 = 70.65 \approx 70.7$

- 136 cm^3 ; $3.14 \cdot (3.8)^2 \cdot 3 = 3.14 \cdot 14.44 \cdot 3 = 136.0248 \approx 136$
- 413.8 cm^3 ; $3.14 \cdot (3.3)^2 \cdot 12.1 = 3.14 \cdot 10.89 \cdot 12.1 = 413.75466 \approx 413.8$
- $1,962.5 \text{ ft}^3$; $3.14 \cdot (5)^2 \cdot 25 = 3.14 \cdot 25 \cdot 25 = 1,962.5$
 - $5,298.8 \text{ ft}^3$; $3.14 \cdot (7.5)^2 \cdot 30 = 3.14 \cdot 56.25 \cdot 30 = 5,298.8$
 - $3,336.3 \text{ ft}^3$; $5,298.8 - 1,962.5 = 3,336.3$

Reteach

1. a. $B = \pi r^2$

$$B = 3.14 \cdot 4^2 = 3.14 \cdot 16 = 50.24 \text{ cm}^2$$

b. 16 cm

c. $V = Bh$

$$V = 50.24 \cdot 16$$

$$V = 803.84 \text{ cm}^3$$

2. a. $B = \pi r^2$

$$B = 3.14 \cdot 8^2 = 200.96 \text{ cm}^2$$

b. 6 cm

c. $V = Bh$

$$V = 200.96 \cdot 6$$

$$V = 1,205.76 \text{ cm}^3$$

LESSON 22-2

Practice and Problem Solving: A/B

1. $6,358.5 \text{ in.}^3$; $\frac{1}{3} \cdot 3.14 \cdot (15)^2 \cdot 27 = \frac{1}{3} \cdot$

$$3.14 \cdot 225 \cdot 27 = \frac{1}{3} \cdot 19,075.5 = 6,358.5$$

2. $3,299.2 \text{ m}^3$; $\frac{1}{3} \cdot 3.14 \cdot (12.4)^2 \cdot 20.5 = \frac{1}{3} \cdot$

$$3.14 \cdot 153.76 \cdot 20.5 = \frac{1}{3} \cdot 9,897.53 =$$

$$3,299.18 \approx 3,299.2$$

3. 25.1 in^3 ; $\frac{1}{3} \cdot 3.14 \cdot (2)^2 \cdot 6 = \frac{1}{3} \cdot 3.14 \cdot$

$$4 \cdot 6 = \frac{1}{3} \cdot 75.36 = 25.12 \approx 25.1$$

4. 167.5 cm^3 ; $3.14 \cdot (4)^2 \cdot 10 = \frac{1}{3} \cdot 3.14 \cdot$

$$16 \cdot 10 = 167.5$$

5. 339.1 in^3 ; $\frac{1}{3} \cdot 3.14 \cdot (4.5)^2 \cdot 16 = \frac{1}{3} \cdot 3.14 \cdot 20.25 \cdot 16 = \frac{1}{3} \cdot 1,017.36 = 339.12$
6. 392.5 cm^3 ; $\frac{1}{3} \cdot 3.14 \cdot (5)^2 \cdot 15 = \frac{1}{3} \cdot 3.14 \cdot 25 \cdot 15 = \frac{1}{3} \cdot 1,177.5 = 392.5$
7. a. $1,236.375 \text{ ft}^3$; $\frac{1}{3} \cdot 3.14 \cdot (15)^2 \cdot 21 = 4,945.5 \text{ ft}^3$
 b. $4,592.25 \text{ ft}^3$; $3.14 \cdot (15)^2 \cdot 26 = 18,369 \text{ ft}^3$
 c. $23,314.5 \text{ ft}^3$

Reteach

1. radius r of base = 3 in.

$$V = \frac{1}{3} Bh$$

$$V = \frac{1}{3} (\pi r^2) h$$

$$V = \frac{1}{3} (\pi \times 3^2) \times 10$$

$$V = \frac{1}{3} (28.26) \times 10$$

$$V = 9.42 \times 10$$

$$V = 94.2 \text{ in}^3$$

2. radius r of base = 6 cm

$$V = \frac{1}{3} Bh$$

$$V = \frac{1}{3} (\pi r^2) h$$

$$V = \frac{1}{3} (\pi \times 6^2) \times 4$$

$$V = \frac{1}{3} (113.04) \times 4$$

$$V = 37.68 \times 4$$

$$V = 150.72 \text{ cm}^3$$

LESSON 22-3

Practice and Problem Solving: A/B

1. $\frac{4}{3} (3.14)(5)^3 = \frac{4}{3} (3.14)(125) \approx 523.3333 \approx 523.3 \text{ in}^3$
2. $\frac{4}{3} (3.14)(1.2)^3 = \frac{4}{3} (3.14)(1.728) = 7.23456 \approx 7.2 \text{ m}^3$
3. $\frac{4}{3} (3.14)(3)^3 = \frac{4}{3} (3.14)(27) = 113.04 \approx 113 \text{ in}^3$
4. $\frac{4}{3} (3.14)(4.5)^3 = \frac{4}{3} (3.14)(91.125) = 381.51 \approx 381.5 \text{ m}^3$
5. $\frac{4}{3} (3.14)(1.5)^3 = \frac{4}{3} (3.14)(3.375) = 14.13 \approx 14.1 \text{ m}^3$
6. $\frac{4}{3} (3.14)(8)^3 = \frac{4}{3} (3.14)(512) \approx 2,143.5733 \approx 2,143.6 \text{ in}^3$
7. $\frac{4}{3} (3.14)(4.3)^3 \approx \frac{4}{3} (3.14)(79.507) = 332.8693 \approx 332.9 \text{ in}^3$
8. a. $\frac{4}{3} (3.14)(1.25)^3 \approx \frac{4}{3} (3.14)(1.953125) \approx 8.177 \approx 8.2 \text{ in}^3$
 b. $\frac{4}{3} (3.14)(1.3125)^3 = \frac{4}{3} (3.14)(2.261) \approx 9.4661 \approx 9.5 \text{ in}^3$
 c. $8.2 \text{ in}^3 < x < 9.5 \text{ in}^3$

Reteach

1. diameter = 2.5 in.

radius = 1.25 in.

$$V = \frac{4}{3} \cdot 3.14 \cdot 1.25^3$$

$$V = \frac{4}{3} \cdot 3.14 \cdot 1.95$$

$$V = 8.1771$$

$$V \approx 8.2 \text{ in}^3$$

2. diameter = 12 cm

radius = 6 cm

$$V = \frac{4}{3} (3.14 \times 6^3)$$

$$V = \frac{4}{3} (3.14 \times 216)$$

$$V = 904.32$$

$$V \approx 904.3 \text{ cm}^3$$