Math Connections
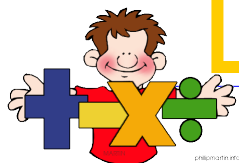
Math Course 2—Week 4 Answers

Percent Problems Using Diagrams 5.1.1 and 5.1.2 Answers

Answers

1. 80%	2. $10.80	3. about 8%
4. 80 questions	5. $53.85	6. 30 questions
7. 20%	8. 15%	9. 20 students
10. $36.40	11. $17.60	12. 150 questions
13. about 5%	14. about 35%	15. $120

Ratios 5.1.1 and 5.1.2 Answers

Answers

1. a. $\frac{5}{3}$ b. $\frac{2}{3}$ c. $\frac{2}{10} = \frac{1}{5}$ 2. a. $\frac{20}{16} = \frac{5}{4}$ b. $\frac{16}{20} = \frac{4}{5}$ c. $\frac{2}{36}$ d. $\frac{2}{38}$

3. 9 c. apple, 15 c. cranberry, 6 c. ginger ale   4. $7\frac{1}{2}$ c. apple, $12\frac{1}{2}$ c. cranberry, 5 c. ginger ale

Independent And Dependent Events 5.2.3 Answers

Answers

1. independent   2. dependent   3. dependent

Answers

1. $\frac{2}{6}$ or $\frac{1}{3}$

2. $\frac{1}{18}$

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

4. $\frac{5}{12}$

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

6. $\frac{25}{60} \cdot \frac{35}{60} \approx 0.243$

7. $\frac{125}{250} \cdot \frac{50}{250} \cdot \frac{75}{250} = \frac{3}{100}$

8. $\frac{2}{4}$ or $\frac{1}{2}$

9. $\frac{1}{625} = 0.0016$

Answers

1. The lengths of the boards are 37 cm and 63 cm.

2. Thu is 28 years old and her brother is 23 years old.

3. Tomas is thinking of the number 106.

4. The two consecutive numbers are 61 and 62.

5. The two consecutive even numbers are 122 and 124.

6. Christine is 25, Aaron is 31, and Joe is 93 years old.

7. Farmer Fran has 20 goats and 18 chickens.

8. The lengths of the boards are 42, 57, and 57 cm.

9. Juan has 12 nickels and 3 dimes.

10. There were 255 adult and 355 student tickets purchased for the play.

11. The lengths of the boards are 44 and 59 cm.

12. Conrad has 16 nickels and quarters and 48 dimes.

Answers (Equations may vary.)

1. $x + (x + 26) = 100$
   The lengths of the boards are 37 cm and 63 cm.

2. $x + (x + 5) = 51$
   Thu is 28 years old and her brother is 23 years old.

3. $3x - 13 = 305$
   Tomás is thinking of the number 106.

4. $x + (x + 1) = 123$
   The two consecutive numbers are 61 and 62.

5. $x + (x + 2) = 246$
   The two consecutive numbers are 142 and 144.

6. $x + (x + 6) + 3(x + 6) = 149$
   Christine is 25, Aaron is 31, and Joe is 93 years old.

7. $2x + 4(38 - x) = 116$
   Farmer Fran has 20 goats and 18 chickens.

8. $x + (x + 15) + (x + 15) = 156$
   The lengths of the boards are 42, 57, and 57 cm.

9. $0.05x + 0.10(15 - x) = 0.90$
   Juan has 12 nickels and 3 dimes.

10. $\$5x + \$3.50(x + 100) = 2517.50$
    There were 255 adult and 355 student tickets purchased for the play.

11. $3x + 2(x + 15) = 250$
    The lengths of the boards are 44 and 59 cm.

12. $0.05x + 0.25x + 0.10(3x) = 9.60$
    Conrad has 16 quarters, 16 nickels, and 48 dimes.