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Multiple Choice

1. What fraction of the square is shaded?
   a. 1/3    b. 1/4    c. 4/1    d. 3/4

2. What fraction of the circle is shaded?
   a. 1/6    b. 5/6    c. 6/1    d. 6/5

3. What does a denominator tell you?
   a. The number of parts being referred to.
   b. The size of the whole.
   c. The size of a part related to a whole.
   d. The total number of equal parts in a whole.

4. Jan cut a sandwich into 3 pieces. She gave one to Gavin and one to Kyla. How much of the sandwich did Jan give Kyla?
   a. 1/3    b. 2/3    c. 3/1    d. 3/2

5. Nine books are on a shelf. Three have red covers, four have black covers, and two have blue covers. What fraction of the books have black covers?
   a. 2/9    b. 3/9    c. 4/9    d. 9/4

6. Six friends divide the cost of a pizza equally. What fraction of the cost did each friend pay?
   a. 1/3    b. 3/1    c. 1/6    d. 6/1

Show Your Work

7. Write a fraction to show what part of the rectangle is NOT shaded.

8. Write an improper fraction to show how many circles are shaded.

Explain Your Answer

9. What is the difference between a proper fraction and an improper fraction?
Multiple Choice

1. What mixed fraction tells the shaded number of squares?
   a. 7/1   b. 1 1/4   c. 7/4   d. 1 3/4

2. Which mixed fraction has the same value as 5/3?
   a. 1 1/3   b. 2 1/3   c. 1 2/3   d. 1 2/5

3. What mixed fraction has the same value as 7/2?
   a. 3 1/2   b. 5 1/2   c. 2 1/7   d. 3 2/7

4. Which two numbers have the same value?
   a. 6/5 and 6 1/5   b. 6/5 and 15/6
   c. 6/5 and 1 1/6   d. 6/5 and 1 1/5

5. Which two numbers have the same value?
   a. 9/4 and 1 1/4   b. 9/5 and 1 4/5
   c. 9/4 and 2 1/9   d. 9/5 and 1 4/9

6. What improper fraction has the same value as 3 1/8?
   a. 24/3   b. 25/8   c. 25/3   d. 33/8

7. What improper fraction has the same value as 1 2/7?
   a. 9/2   b. 9/7   c. 3/7   d. 10/7

Show Your Work

8. Write 11/4 as a mixed fraction.

9. Write 2 1/6 as an improper fraction.

Explain Your Answer

10. Explain how to rewrite a mixed fraction as an improper fraction.
Equivalent Fractions Test

Multiple Choice

1. Which fraction is equivalent to 2/3?
   a. 2/6  b. 3/2  c. 4/6  d. 6/12

2. Which fraction is equivalent to 7/10?
   a. 10/7  b. 14/25  c. 7/5  d. 21/30

3. Which two fractions are equivalent?
   a. 1/6 and 1/3  b. 5/6 and 15/60  c. 1/6 and 6/1  d. 5/6 and 25/30

4. Which fraction is equivalent to 18/20?
   a. 9/10  b. 3/4  c. 4/5  d. 6/7

5. What number is NOT a factor of 15?
   a. 30  b. 15  c. 5  d. 3

6. Which set of numbers are factors of 12?
   a. 1, 2, 3, 4, 6, 12  b. 12, 24, 36  c. 1, 2, 3, 4, 5, 6  d. 0, 1, 2, 3, 4

7. Which fraction is in lowest terms?
   a. 12/18  b. 12/20  c. 12/19  d. 12/12

8. What is 16/40 in lowest terms?
   a. 4/10  b. 4/5  c. 8/20  d. 2/5

Show Your Work

9. Give an example of two fractions that are equivalent.

10. Name three fractions that are equivalent to 1/2.

Explain Your Answer

11. Explain the steps you would use to write the fraction 50/75 in lowest terms.
Comparing Fractions Test

Multiple Choice

1. Which of the following statements is true?
   a. $\frac{1}{6} < \frac{5}{6}$  
   b. $\frac{5}{6} < \frac{1}{6}$  
   c. $\frac{1}{6} > \frac{5}{6}$  
   d. $\frac{5}{6} = \frac{1}{6}$

2. Which of the following statements is true?
   a. $\frac{1}{3} < \frac{1}{5}$  
   b. $\frac{1}{5} < \frac{1}{3}$  
   c. $\frac{1}{5} > \frac{1}{3}$  
   d. $\frac{1}{3} = \frac{1}{5}$

3. Which of the following statements is true?
   a. $\frac{2}{6} < \frac{1}{3}$  
   b. $\frac{1}{3} < \frac{2}{6}$  
   c. $\frac{2}{6} > \frac{1}{3}$  
   d. $\frac{1}{3} = \frac{2}{6}$

4. Which of the following statements is true?
   a. $\frac{1}{2} < \frac{3}{7}$  
   b. $\frac{2}{5} < \frac{7}{10}$  
   c. $\frac{5}{12} > \frac{5}{6}$  
   d. $\frac{3}{8} > \frac{3}{4}$

5. Which number is a NOT multiple of 9?
   a. 3  
   b. 9  
   c. 18  
   d. 27

6. What is the least common multiple of 14 and 20?
   a. 2  
   b. 14  
   c. 140  
   d. 280

7. Which set is listed in order from least to greatest?
   a. $\frac{1}{2}, \frac{1}{3}, \frac{2}{3}$  
   b. $\frac{1}{3}, \frac{2}{3}, \frac{1}{2}$  
   c. $\frac{1}{3}, \frac{1}{2}, \frac{2}{3}$  
   d. $\frac{1}{2}, \frac{2}{3}, \frac{1}{3}$

Show Your Work

8. Compare $\frac{3}{7}$ and $\frac{5}{7}$.

9. Compare $\frac{1}{6}$ and $\frac{1}{9}$.

10. List the following in order from least to greatest:
    $\frac{5}{12}, \frac{3}{4}, \frac{1}{2}, \frac{2}{3}$

Explain Your Answer

11. How can you use the least common multiple to compare $\frac{2}{3}$ and $\frac{5}{9}$?
Adding Like Fractions Test

Multiple Choice

1. What is the sum of 5/10 and 2/10?
   a. 3/10  b. 3/20  c. 7/10  d. 7/20

2. What is the sum of 3/8 and 2/8?
   a. 1/3  b. 5/8  c. 1/16  d. 5/16

3. Find the sum of 1 1/3 and 1 1/3.
   a. 1 1/3  b. 2 2/3  c. 2 1/3  d. 3 2/3

4. Find the sum of 3 1/12 and 1 9/12.
   a. 3 5/6  b. 4 7/12  c. 4 9/12  d. 4 5/6

5. Jerry ate 5/6 of a pizza for supper. He ate another 3/6 of a pizza for breakfast. How many pizzas did he eat in all?
   a. 1 1/3  b. 1 1/2  c. 1/3  d. 1 1/6

6. Madi walked 3/8 mile to the corner of her street. She walked another 7/8 mile to her friend’s house. How far did Madi walk?
   a. 4/8  b. 1/2  c. 1 1/4  d. 1 1/8

7. In lowest terms, what is the sum of 2 12/15 and 3 9/15.
   a. 5 2/5  b. 5 21/15  c. 6 2/5  d. 6 6/15

Show Your Work

8. Cheryl’s fish tank has male guppies, female guppies, and female zebra fish. If 1/8 of the fish are male guppies, and 5/8 of the fish are female guppies, what fraction of the fish are guppies?

9. In lowest terms, what is the sum of 1/8 and 3/8?

Explain Your Answer

10. Explain how to find the sum of 7 1/6 and 5/6.
Adding Unlike Fractions Test

Multiple Choice

1. What is the sum of $\frac{3}{10}$ and $\frac{2}{5}$?
   a. $\frac{1}{2}$  b. $\frac{3}{10}$  c. $\frac{1}{3}$  d. $\frac{7}{10}$

2. Gary ate $\frac{1}{2}$ of a plate of brownies. Brant ate $\frac{3}{8}$ of the same plate of brownies. What fraction of the plate of brownies did the boys eat?
   a. $\frac{3}{4}$  b. $\frac{5}{8}$  c. $\frac{1}{2}$  d. $\frac{7}{8}$

3. Find the sum of $\frac{2}{3}$ and $\frac{1}{7}$.
   a. $\frac{3}{10}$  b. $\frac{3}{7}$  c. $\frac{17}{21}$  d. $\frac{19}{21}$

4. A baby elephant eats $\frac{5}{6}$ ton of food each day. His mother eats $\frac{23}{4}$ tons of food. How many tons of food do the two of them eat together each day?
   a. $3\frac{1}{4}$  b. $3\frac{5}{12}$  c. $3\frac{7}{12}$  d. $4\frac{1}{6}$

5. $\frac{9}{10} + \frac{2}{3} = _____$
   a. $1\frac{1}{3}$  b. $1\frac{1}{10}$  c. $1\frac{7}{30}$  d. $1\frac{17}{30}$

6. Find the sum of $3\frac{1}{2}$ and $6\frac{5}{7}$.
   a. $9\frac{5}{9}$  b. $9\frac{2}{3}$  c. $10\frac{3}{14}$  d. $10\frac{6}{7}$

7. $\frac{3}{5} + \frac{1}{20} + \frac{1}{4} = _____$
   a. $\frac{9}{10}$  b. $\frac{4}{5}$  c. $\frac{19}{20}$  d. $\frac{17}{20}$

Show Your Work

8. In lowest terms, what is the sum of $\frac{7}{15}$ and $\frac{5}{12}$?

9. A recipe calls for $\frac{2}{3}$ cup of white flour and $1\frac{1}{5}$ cup of wheat flour. How much flour is used in all?

Explain Your Answer

10. Alex added $2\frac{1}{6}$ and $1\frac{1}{9}$ for a sum of $3\frac{16}{54}$. Is Alex correct? Explain.
Multiple Choice

1. In lowest terms, what is the difference between 5/6 and 1/6?
   a. 1    b. 4/6    c. 2/3    d. 1/2

2. Find the difference in lowest terms.
   \[ \frac{4}{5} - \frac{3}{8} \]
   a. 1\frac{1}{2}    b. \frac{1}{2}    c. 1\frac{1}{8}    d. 1\frac{3}{4}

3. Angela has 7/10 of her book left to read. If she reads 3/10 of the book today, how much will she still need to read?
   a. 3/10    b. 2/5    c. 1/4    d. 1/10

4. \( \frac{4}{7} - \frac{3}{15} = \)____
   a. 1/3    b. 2/5    c. 3/5    d. 1\frac{1}{3}

5. Find the difference in lowest terms.
   \[ \frac{5}{12} - \frac{2}{7} \]
   a. 3\frac{1}{6}    b. 3\frac{5}{6}    c. 2\frac{10}{12}    d. 2\frac{5}{6}

6. Subtract 3 - \frac{2}{3}.
   a. 3\frac{1}{3}    b. 1\frac{1}{3}    c. 2\frac{2}{3}    d. 2\frac{1}{3}

7. \( \frac{6}{8} + ____ = 1\frac{1}{8} \)
   a. 1/8    b. 3/8    c. 3/4    d. 5/8

Show Your Work

8. Jamie wants to run 2\frac{3}{4} miles today. He has already run 1\frac{1}{4} miles. How much farther must he run to meet his goal?

9. Jena added 5\frac{1}{8} gallons of chorine to her pool at the start of summer. She also added 2\frac{5}{8} gallons of an algecide. How many more gallons of chlorine did she add than algecide?

Explain Your Answer

10. Explain how to regroup in order to subtract 1/2 from 6.
Subtracting Unlike Fractions Test

Multiple Choice

1. Subtract $\frac{5}{8} - \frac{1}{4}$.
   a. $\frac{3}{8}$  b. $\frac{1}{2}$  c. $\frac{1}{4}$  d. $\frac{3}{4}$

2. Subtract $\frac{1}{3} - \frac{2}{7}$.
   a. $\frac{1}{7}$  b. $\frac{1}{21}$  c. $\frac{1}{14}$  d. $\frac{4}{21}$

3. Which of the following is NOT correct?
   a. $\frac{5}{6} - \frac{2}{3} = \frac{1}{6}$  b. $\frac{1}{3} - \frac{2}{15} = \frac{3}{15}$
   c. $\frac{7}{12} - \frac{1}{3} = \frac{1}{4}$  d. $\frac{17}{21} - \frac{2}{3} = \frac{3}{7}$

4. Which of the following has a difference of $1\frac{1}{15}$?
   a. $\frac{47}{15} - \frac{21}{3}$  b. $\frac{34}{15} - \frac{21}{3}$
   c. $\frac{34}{15} - \frac{21}{5}$  d. $\frac{34}{15} - \frac{11}{5}$

5. $\frac{57}{24} - \frac{31}{3} = \frac{12}{12}$
   a. $2\frac{1}{24}$  b. $1\frac{1}{12}$  c. $1\frac{23}{24}$  d. $1\frac{1}{24}$

6. $\frac{3}{4} + \frac{\_}{8} = 2\frac{7}{8}$
   a. $\frac{3}{8}$  b. $1\frac{3}{8}$  c. $\frac{5}{8}$  d. $1\frac{5}{8}$

7. A large cement truck can carry $6\frac{1}{4}$ tons of cement. A smaller truck can carry $3\frac{1}{3}$ tons of cement. How many more tons can the large truck carry?
   a. $3\frac{1}{12}$  b. $3\frac{11}{12}$  c. $2\frac{1}{12}$  d. $2\frac{11}{12}$

Show Your Work

8. Find the missing addend. Write your answer in lowest terms.
   $\frac{\_}{3} + 2\frac{2}{3} = 3\frac{1}{6}$

9. Helena grew $\frac{1}{16}$ of an inch over the summer. Leona grew $\frac{3}{8}$ of an inch. Which girl grew more, and how much? Explain your answer.

10. A bag of candy weighs $1\frac{1}{2}$ pounds. A jug of juice weighs $2\frac{5}{12}$ pounds. A box of brownie mix weighs $2\frac{9}{16}$ pounds. What items can be put together into a bag that will hold no more than 4 pounds? Explain.

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Multiple Choice

1. What is the product of $\frac{1}{3}$ and $\frac{2}{9}$?
   a. $\frac{1}{27}$  b. $\frac{2}{27}$  c. $\frac{1}{3}$  d. $\frac{2}{3}$

2. What is the product of $\frac{2}{5}$ and $\frac{1}{4}$?
   a. $\frac{1}{2}$  b. $\frac{1}{10}$  c. $\frac{1}{20}$  d. $\frac{2}{9}$

3. Multiply $\frac{3}{10} \times \frac{7}{10}$
   a. 1  b. $\frac{1}{10}$  c. $\frac{21}{10}$  d. $\frac{21}{100}$

4. Which two fractions have a product of $\frac{2}{3}$?
   a. $\frac{2}{3}$ and $\frac{9}{1}$  b. $\frac{1}{3}$ and $\frac{1}{3}$
   c. $\frac{3}{2}$ and $\frac{4}{9}$  d. $\frac{3}{12}$ and $\frac{4}{9}$

5. The track at the high school is $\frac{1}{4}$ mile. If Jennifer ran the track 8 times, how many miles did she run?
   a. 2  b. 4  c. 16  d. 32

6. Multiply $\frac{1}{6}$ and 10.
   a. $\frac{1}{60}$  b. $\frac{1}{3}$  c. $1\frac{1}{4}$  d. $1\frac{2}{3}$

7. Multiply $1\frac{1}{2} \times 2\frac{1}{2}$
   a. $1\frac{1}{2}$  b. $2\frac{1}{4}$  c. $3\frac{1}{4}$  d. $3\frac{3}{4}$

Show Your Work

8. Multiply $\frac{6}{11}$ and $4\frac{1}{3}$.

9. Harvey can make 6 cabinet knobs from each foot of a wooden board. If he has $5\frac{1}{2}$ feet of the board, how many knobs can he make?

Explain Your Answer

10. Explain how to simplify $\frac{4}{7} \times \frac{3}{8}$ before you multiply.
Dividing Fractions Test

Multiple Choice

1. Which fraction is the reciprocal of 6/7?
   a. 6/7    b. 3/3    c. 7/7    d. 7/6

2. Divide 1/6 by 1/2.
   a. 1/12    b. 1/3    c. 3    d. 12

3. Nala has 3/4 pint of juice. She is pouring it into cups that hold 1/8 pint each. How many cups can she fill?
   a. 6    b. 4    c. 3    d. 1/4

4. Divide 15 by 1/3.
   a. 3    b. 5    c. 15    d. 45

5. An 8 mile hiking trail has a marker every 1/4 of a mile. How many markers are on the trail?
   a. 2    b. 4    c. 16    d. 32

   a. 1/3    b. 1/4    c. 1/12    d. 27/64

7. A truckload of gravel weighs 3/4 ton. A driveway used 4 1/2 tons of gravel. How many truckloads were needed?
   a. 5    b. 6    c. 7    d. 8

Show Your Work

8. What is the reciprocal of 15?

9. One cupcake uses 1/3 cup of batter. How many cupcakes can you make from 6 2/3 cups of batter?

Explain Your Answer

10. A fraction is divided by 2/3. The answer is 1/6. What is the fraction? Explain.
Estimating With Fractions Test

Multiple Choice

1. Which fraction is a good estimate for 19/40?
   a. 1/4    b. 1/3    c. 1/2    d. 2/3

2. Which computation will result in a good estimate for 9/16 + 25/32?
   a. 1/2 + 3/4    b. 1/2 + 1/2    c. 3/4 + 3/4    d. 9/16 + 5/8

3. Tamara needs 13/15 of an ink cartridge to print off a book. She needs to print 5 copies of the book. About how many cartridges of ink will she use?
   a. 2    b. 3    c. 4    d. 5

4. By rounding to the nearest whole number, what is a good estimate for the sum of 15 3/8 and 22 1/4?
   a. 35    b. 36    c. 37    d. 38

Show Your Work

5. Estimate the difference.
   13/16 - 1/4

6. Estimate the sum.
   3/2 + 4/3 + 3/4

7. Alex uses 7/16 cup of liquid detergent for each load of laundry. If a bottle of detergent contains 8 cups, about how many loads does he get from one bottle?

8. Round each fraction to the nearest half to estimate the answer.
   6/15 + 2/3 - 9/17 - 5/9 + 4/7

Explain Your Answer

9. Ellen can throw a shotput 26 feet. Amber can throw 5/6 of that distance. Is Amber’s throw longer or shorter than 26 feet? Explain how you know.
Decimals Test

Multiple Choice

1. What digit is in the tens place of 630.987?
   a. 3    b. 6    c. 8    d. 9

2. What digit is in the hundredths place of 2,460.135?
   a. 1    b. 3    c. 4    d. 5

3. What is the value of the digit 4 in the decimal 20.436?
   a. 4 ones    b. 4 tens    c. 4 tenths    d. 4 hundredths

4. What is the standard form of the number three thousand sixteen and eight hundredths?
   a. 3,016.8    b. 3,016.08    c. 316.8    d. 316.08

5. What is the correct word form of 9.02?
   a. nine and two hundred    b. nine and two tenths    c. nine hundred two    d. nine and two hundredths

6. Which set of numbers are NOT all equivalent?
   a. 0.2, 0.02, 0.200    b. 8.2, 8.20, 8.200
   c. 10.06, 10.060, 10.0600    d. 0.07, 0.070, 0.0700

Show Your Work

7. What is the value of the digit 2 in the number 16.342?

8. Write a decimal number with the following digits:
   9 in the tens place
   6 in the hundredths place
   3 in the hundreds place
   0 in the tenths and ones place.

9. Write a decimal that is equivalent to 0.6.

Explain Your Answer

10. How are whole number place values and decimal place values alike?
Decimals as Fractions Test

Multiple Choice

1. What fraction is equivalent to 0.9?
   a. 9/1  b. 9/10  c. 9/100  d. 3/5

2. In lowest terms, what fraction is equivalent to 0.32?
   a. 4/25  b. 8/25  c. 32/100  d. 16/50

3. What mixed fraction has the same value as 1.2?
   a. 1 1/5  b. 1 2/5  c. 2 1/10  d. 1 2 1/10

4. Sarah chased her dog 2.65 miles before she caught it. In lowest terms, how many miles did she chase the dog as a fraction?
   a. 2 16/25  b. 2 65/100  c. 2 13/20  d. 2 13/25

5. Which two numbers have the same value?
   a. 1.275 and 1 13/40  b. 1.225 and 1 11/40  c. 1.375 and 1 1/8  d. 1.375 and 1 3/8

Explain Your Answer

10. Explain how to write sixteen hundredths as a decimal and a fraction.

Show Your Work

Write each of the following decimals as a fraction in lowest terms.

6. 0.75

7. 1.5

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Multiple Choice

1. Which number has the same value as \( \frac{5}{100} \)?
   a. 500  b. 0.5  c. 0.500  d. 0.05

2. Which number has the same value as \( \frac{56}{10} \)?
   a. 56  b. 5.6  c. 5.06  d. 0.56

3. Which number has the same value as \( \frac{4}{5} \)?
   a. 20  b. 0.45  c. 0.8  d. 0.4

4. Which number has the same value as \( \frac{68}{25} \)?
   a. 6.825  b. 6.16  c. 6.8  d. 6.32

5. Which numbers all have the same value?
   a. \( \frac{1}{2}, 0.5, \frac{5}{10} \)  b. \( \frac{1}{2}, \frac{5}{10}, 0.05 \)
   c. \( \frac{1}{5}, \frac{5}{10}, 0.2 \)  d. \( \frac{1}{4}, \frac{25}{100}, 2.5 \)

Show Your Work

Write each of the following fractions as decimal numbers.

6. \( \frac{3}{1000} \)

7. \( \frac{17}{20} \)

Explain Your Answer

10. Tami has $1.00. She wants to give \( \frac{7}{20} \) of her money to her sister. Explain why writing the fraction as a decimal will tell her how much to give her sister.
Comparing Decimals Test

Multiple Choice

1. Which statement is true?
   - a. $0.5 < 0.05$
   - b. $0.05 > 0.05$
   - c. $0.05 < 0.5$
   - d. $0.5 = 0.05$

2. Which statement is true?
   - a. $1.64 < 1.632$
   - b. $1.632 > 1.640$
   - c. $1.632 > 1.64$
   - d. $1.632 < 1.64$

3. Which statement is NOT true?
   - a. $1.7 > 1.27$
   - b. $8.56 < 85.6$
   - c. $8.56 = 85.6$
   - d. $1.27 < 1.7$

4. Which decimal has the greatest value?
   - a. $1.27$
   - b. $1.064$
   - c. $0.809$
   - d. $0.1064$

5. Which decimal has the least value?
   - a. $1.27$
   - b. $1.064$
   - c. $0.809$
   - d. $0.1064$

6. Which set is ordered from least to greatest?
   - a. $0.124, 1.2, 0.13$
   - b. $0.124, 0.13, 1.2$
   - c. $1.2, 0.13, 0.124$
   - d. $0.13, 0.124, 1.2$

Show Your Work

7. Write a statement using $<, >,$ or $=$ comparing $2.06$ and $2.8$.

8. Order the numbers from least to greatest.
   - $6.584, 0.6894, 0.864, 0.6984, 0.068$

9. Tom has $21.62$, Marc has $22.00$, and Hannah has $21.25$. Who has the most money?

Explain Your Answer

10. Find a value between $1.2$ and $1.3$. Explain your reasoning.
Adding Decimals Test

Multiple Choice
1. Add. 0.154 + 1.203
   a. 1.357   b. 2.743   c. 1.354   d. 0.354

2. What is the sum of 4.2 and 0.36?
   a. 7.8   b. 0.78   c. 4.236   d. 4.56

3. What is the sum of 0.37 and 0.409?
   a. 0.416   b. 4.109   c. 0.779   d. 4.16

4. A triangle has sides that are 4.2 cm, 1.1 cm, and 3.26 cm long. What is the perimeter of the triangle?
   a. 8.9 cm   b. 8.56 cm   c. 3.49 cm   d. 9.45 cm

5. Marilynn has $13.47. She finds another $5.20 in her drawer. How much does she have in all?
   a. $13.99   b. $65.47   c. $18.49   d. $18.67

6. Add. 4.61 + 0.023
   a. 4.63   b. 4.633   c. 4.84   d. 6.91

Show Your Work
7. Add $20.64 and $134.15.

8. Amie did a workout where she walked 2.65 miles and ran 4.3 miles. How far did Amie walk and run together?

9. What is the sum of 524.08 and 65.3?

Explain Your Answer
10. What is the benefit of lining up the decimal points in an addition problem?
Multiple Choice

1. Add. 6.548 + 0.634
   a. 5.914   b. 6.172   c. 7.182   d. 12.888

2. What is the sum of 0.099 and 0.47?
   a. 0.146   b. 0.056   c. 0.569   d. 1.46

3. What is the sum of 3.692 and 0.8?
   a. 3.7   b. 3.772   c. 4.492   d. 11.692

4. Jeremiah put $25.90 in one pocket and $63.82 in another. How much did he have in both pockets?
   a. $37.92   b. $88.72   c. $88.91   d. $89.72

5. A rectangle has sides with lengths 8.6 cm and 15.8 cm. What is the perimeter of the rectangle?
   a. 48.8 cm   b. 46.8 cm   c. 40.2 cm   d. 24.4 cm

6. Add. 3.785 + 0.4 + 2.03
   a. 5.855   b. 6.215   c. 6.992   d. 9.815

Show Your Work

7. Add $55.24, $192.76, and $86.19.

8. Harrison drove 468.92 miles one day and then drove another 312.37 more miles the next. How many miles did Harrison drive?

9. A food stand sells hot dogs for $1.25, pizza for $1.50, drinks for $1.95, hot pretzels for $2.60, and popcorn for $0.75. Denise ordered two hot dogs, a pretzel, a popcorn, and a drink. How much was her total?

Explain Your Answer

10. Explain how to group the addends for mental addition.

   6.1 + 8.2 + 3.9 + 0.8
Subtracting Decimals Test

Multiple Choice

1. Subtract. 8.62 − 4.31
   a. 4.21  b. 4.31  c. 3.31  d. 4.32

2. Subtract. 0.79 − 0.06
   a. 0.19  b. 0.73  c. 0.2  d. 0.85

3. What is the difference between 2.992 and 1.8?
   a. 2.812  b. 2.974  c. 1.192  d. 4.792

4. It is 6.87 miles from Mattie’s house to the school. It is 4.4 miles from Mattie’s house to the store. How much farther is the school from Mattie’s house than the store?
   a. 2.47 miles  b. 2.83 miles  c. 3.47 miles  d. 6.43 miles

5. Tina saw a lamp that originally cost $29.99. She bought it on sale for $9.87. How much did she save?
   a. $19.02  b. $20.12  c. $21.13  d. $23.12

6. Subtract 0.2 from 3.64.
   a. 1.64  b. 3.44  c. 3.62  d. 3.84

7. Subtract 14.8 from 86.94.
   a. 0.85  b. 73.86  c. 85.46  d. 72.14

Show Your Work

8. A video game costs $54.97. A new controller costs $23.47. How much more does the game cost than the controller?

9. Subtract 0.26 from 0.576.

Explain Your Answer

10. Explain a situation where it may be helpful to write zeros at the end of a number before you subtract.
Multiple Choice

1. Subtract. 9.41 \(-\) 3.67
   a. 5.74  
   b. 5.84  
   c. 6.74  
   d. 6.84

2. Subtract. 0.4 \(-\) 0.07
   a. 0.03  
   b. 0.3  
   c. 0.33  
   d. 0.36

3. What is the difference between 12.4 and 12.04?
   a. 24.44  
   b. 0.99  
   c. 0.36  
   d. 0.09

4. Jarrod walked 5.47 miles on Monday, 4.8 miles on Tuesday, and 8.15 miles on Wednesday. How much farther did he walk on Wednesday than he did on Tuesday?
   a. 3.35 miles  
   b. 2.68 miles  
   c. 0.67 miles  
   d. 7.67 miles

5. Jill has 6.48 meters of red fabric and 3.7 meters of blue fabric. How much more red fabric does she have than blue?
   a. 3.41 meters  
   b. 2.78 meters  
   c. 6.11 meters  
   d. 6.85 meters

6. Subtract 0.4 from 3.17.
   a. 0.83  
   b. 3.57  
   c. 3.13  
   d. 2.77

7. Subtract 1.55 from 2.4.
   a. 0.85  
   b. 1.31  
   c. 3.95  
   d. 13.1

Show Your Work

8. Owen had $20.00 and spent $4.63. How much did he have left?

9. Subtract. 86.045 \(-\) 20.2

Explain Your Answer

10. How do you use regrouping to subtract 0.01 from 2?
Multiplying Decimals Test

Multiple Choice

1. Multiply. $0.4 \times 8$
   a. 0.32  b. 3.02  c. 3.2  d. 32

2. Multiply. $0.9 \times 0.3$
   a. 0.027  b. 0.27  c. 2.7  d. 27

3. The cost of a movie ticket is $6.25. If 3 friends go to the movies, how much will they need?
   a. $6.25  b. $12.50  c. $18.25  d. $18.75

4. Which term does NOT have the same value as the rest?
   a. $1.6 \times 0.2$  b. $16 \times 0.02$
   c. $0.16 \times 0.02$  d. $0.16 \times 2$

5. What is the area of a square with a side length of 3.2 cm?
   a. $6.4 \text{ cm}^2$  b. $9.4 \text{ cm}^2$
   c. $9.24 \text{ cm}^2$  d. $10.24 \text{ cm}^2$

6. What is the product of 1.5 and 6.04?
   a. 9.06  b. 9.6  c. 0.906  d. 0.96

7. Which factors have a product of 1.68?
   a. 0.4 and 0.42  b. 0.56 and 3
   c. 0.76 and 0.92  d. 0.4 and 8.2

Show Your Work

8. Multiply. $0.19 \times 2.2$

   9. Angela earns $8.20 per hour. Last week she worked 10.5 hours. How much did she earn?

Explain Your Answer

10. A club is selling balloons for $2.35 per package. They sold 120 packages the first week and 242 packages the second week. Explain how to find the amount of money the club collected in all.

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Dividing Decimals Test

Multiple Choice

1. Divide. 3.2 ÷ 8
   a. 4  b. 0.4  c. 0.04  d. 25.6
2. Divide. 0.06 ÷ 2
   a. 0.12  b. 0.3  c. 1.2  d. 0.03
3. Clarissa split $13.86 evenly into 3 groups. How much was in each group?
   a. $3.32  b. $4.32  c. $4.62  d. $4.92
4. 3 ÷ 16 = ____
   a. 0.1875  b. 1.875  c. 0.53  d. 5.3
5. Four divers had scores of 5.7, 4.2, 5.5, and 6.2. What was the average score?
   a. 5.4  b. 5.6  c. 5.7  d. 6.2
6. What is the quotient of 5.5 ÷ 11?
   a. 0.65  b. 0.5  c. 5  d. 6.5

Show Your Work

7. Which is a better buy, a 3-pack of shorts for $17.94, or a 5-pack of shorts for $29.80?

8. Sara had a litter of 5 puppies. The weights of the puppies in ounces when they were born are in the table. What was the average weight of a puppy

<table>
<thead>
<tr>
<th>Puppy</th>
<th>Weight in ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>male 1</td>
<td>11.4</td>
</tr>
<tr>
<td>male 2</td>
<td>12.8</td>
</tr>
<tr>
<td>female 1</td>
<td>8.1</td>
</tr>
<tr>
<td>female 2</td>
<td>6.6</td>
</tr>
<tr>
<td>female 3</td>
<td>8.5</td>
</tr>
</tbody>
</table>

9. Divide. 6 ÷ 8

Explain Your Answer

10. A square has a perimeter of 20.48 centimeters. What is the length of each side? Explain.

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**Dividing by a Decimal Test**

**Multiple Choice**

1. Divide. $0.12 \div 0.2$
   - a. 60  
   - b. 6  
   - c. 0.6  
   - d. 0.06

2. Divide. $1.5 \div 0.25$
   - a. 0.6  
   - b. 0.4  
   - c. 4  
   - d. 6

3. Six yards of fabric are cut into 0.75 lengths. How many lengths are there?
   - a. 6  
   - b. 7  
   - c. 8  
   - d. 9

4. Which term does NOT have the same value as the rest?
   - a. $9.6 \div 1.2$  
   - b. $96 \div 12$  
   - c. $0.96 \div 0.12$  
   - d. $96 \div 0.12$

5. A cornfield is 169.6 meters wide. There is a row every 0.8 meters. How many rows are there?
   - a. 182  
   - b. 208  
   - c. 212  
   - d. 227

6. $18 \div 0.15 = _____$
   - a. 12  
   - b. 120  
   - c. 83  
   - d. 8.3

7. Alan worked 34.5 hours and earned $255.30. What is Alan’s hourly rate?
   - a. $7.40  
   - b. $7.50  
   - c. $6.20  
   - d. $6.40

---

**Show Your Work**

8. If 2.5 pounds of peaches cost $15.50, what is the cost per pound?


**Explain Your Answer**

10. What do you need to do before you divide 7.5 by 0.3?
Powers of Ten and Percents Test

Multiple Choice

1. \(6.2 \times 100\)
   a. 0.062  b. 0.62  c. 62  d. 620

2. Multiply 0.8 by 10.
   a. 0.08  b. 0.8  c. 8  d. 80

3. \(1.6 \div 10\)
   a. 0.016  b. 0.16  c. 16  d. 160

4. Divide 0.036 by 100.
   a. 0.00036  b. 0.0036  c. 0.36  d. 3.6

5. What is \(8/25\) as a percent?
   a. 0.32\%  b. 6.4\%  c. 32\%  d. 64\%

6. What is 1.7 as a percent?
   a. 0.17\%  b. 17\%  c. 170\%  d. 1700\%

7. In one magazine, 35\% of the pages are advertisements. What fraction of the pages are advertisements?
   a. \(5/7\)  b. \(7/20\)  c. \(3/10\)  d. \(7/10\)

Show Your Work

8. In Michael’s room, \(1/5\) of the books are science fiction. What percent of the books are science fiction?

9. Write 34\% as a fraction and a decimal.

Explain Your Answer

10. Explain how multiplication or division by a power of ten affects a decimal number.
Rounding and Estimating Test

Multiple Choice
1. Round 63.017 to the tenths place.
   a. 60  b. 63.0  c. 63.1  d. 63.02

2. Round 126.947 to the hundredths place.
   a. 100  b. 126.9  c. 126.94  d. 126.95

3. Round 0.635 to the greatest place value.
   a. 1.0  b. 0.6  c. 0.63  d. 0.64

4. Estimate the product by rounding each factor to the greatest place value.
   \[ 8.62 \times 0.317 \]
   a. 2.4  b. 2.7  c. 3.6  d. 9.0

5. Estimate the sum by rounding each addend to the nearest whole number.
   \[ 4.72 + 6.18 \]
   a. 10  b. 11  c. 12  d. 13

6. A good estimate for _____ is 6.
   a. 3.25 + 3.24  b. 3.25 + 2.29  c. 3.62 + 2.97  d. 3.25 + 3.62

Show Your Work
7. Ana needs five strings that are each 3.2 meters long. If she has a string that is 15 meters long, does she have enough string?

8. Hugh would like new headphones that cost $18.68, a set of 3 CDs that costs $27.14, and a photo card reader that costs $14.97. Will $65.00 be enough for everything Hugh wants?

Explain Your Answer
9. Why might you choose to overestimate?
Answers
Fractions Test
Page 2:  1. b  2. b  3. d  4. a  5. c  6. c  7. 5/8  8. 5/2  9. A proper fraction has a numerator that is smaller than its denominator. An improper fraction has a numerator that is larger than its denominator. The value of a proper fraction is less than one. The value of an improper fraction is one or greater.

Mixed Fractions Test
Page 3:  1. d  2. c  3. a  4. d  5. b  6. b  7. b  8. 2³/⁴  9. 13/6  10. Rewrite a mixed fraction as an improper fraction by multiplying the whole number by the denominator of the fraction. Add the numerator of the fraction to the result. This is the new numerator. The denominator stays the same.

Equivalent Fractions Test
Page 4:  1. c  2. d  3. d  4. a  5. a  6. a  7. c  8. d  9. Answers may vary. Check for equivalence. 10. Answers may vary. Possible answers: 2/4, 3/6, 4/8, 5/10, 6/12, etc. 11. 50/75 can be reduced to lowest terms by finding that the greatest common factor of 50 and 75 is 25. Divide the numerator and denominator by 25. The fraction in lowest terms is 2/3.

Comparing Fractions Test
Page 5:  1. a  2. b  3. d  4. b  5. a  6. c  7. c  8. 3/7 < 5/7  9. 1/6 > 1/9  10. 5/12, 1/2, 2/3, 3/4  11. You can compare fractions easily when they have common denominators. To find fractions with common denominators, use the least common multiple of the denominators as the new denominator. The least common multiple of 3 and 9 is 9. You can leave 5/9 as it is, and convert 2/3 to 6/9. Compare 6/9 to 5/9. 6/9 > 5/9, so 2/3 > 5/9.

Adding Like Fractions Test
Page 6:  1. c  2. b  3. b  4. d  5. a  6. c  7. c  8. 3/4 of the fish are guppies. 9. 1/8 + 3/8 = 4/8 = 1/2  10. To find the sum of 7 1/6 and 5/6, add the fraction parts of the number first. 1/6 + 5/6 = 6/6, or 1. There is only a whole number part in one of the addends. Add the regrouped whole number 1 to 7. 1 + 7 = 8. 7 1/6 + 5/6 = 8.

Adding Unlike Fractions Test
Page 7:  1. d  2. d  3. c  4. c  5. d  6. c  7. a  8. 53/60  9. In all, the recipe uses 1 13/15 cups of flour. 10. No, Alex is not correct. These mixed fractions can be added using a denominator of 18. The correct sum is 3⁵/₁₈. It is possible that Alex added the numerators incorrectly.
Subtracting Like Fractions Test
Page 8:  1. c  2. a  3. b  4. a  5. d  6. d  7. b  8. Jamie must run another 1½ miles to meet his goal. 9. Jena added 2 1/2 gallons more chlorine than she did algecide. 10. To subtract 1/2 from 6, regroup 6 as 5 and 2/2. Subtract the fraction 1/2 from the fraction part, 2/2. The difference is the mixed fraction 5 1/2.

Subtracting Unlike Fractions Test
Page 9:  1. a  2. b  3. d  4. c  5. c  6. a  7. d  8. 1/2  9. Leona grew 5/16 of an inch more than Helena did. 10. The bag of candy and jug of juice are the only two items that can go into a bag together. All other combinations would result in an answer greater than 4 pounds.

Multiplying Fractions Test
Page 10:  1. b  2. b  3. d  4. c  5. a  6. d  7. d  8. 2/11  9. Harvey can make 33 cabinet knobs. 10. You can simplify the two fractions by dividing the numerator 4 and the denominator 8 each by 4. This leaves 1/7 x 3/2.

Dividing Fractions Test
Page 11:  1. d  2. b  3. a  4. d  5. d  6. c  7. b  8. 1/15  9. You can make 20 cupcakes. 10. The fraction is 1/9. You can find the answer by multiplying the quotient (1/6) by the divisor (2/3).

Estimating With Fractions Test
Page 12:  1. c  2. a  3. d  4. c  5. Possible answer: About 1/2  6. Possible answer: About 4  7. Possible answer: About 16, or a few more than 16. 8. 1 9. Amber’s throw is shorter than 26 feet. This is a multiplication of a whole number and a proper fraction. The result is less than the original whole number.

Decimals Test
Page 13:  1. a  2. b  3. c  4. b  5. d  6. a  7. 2 thousandths  8. 390.06  9. Possible answer 0.60. 10. Each place in both whole numbers and decimal numbers has a value that is ten times the place to its right.

Decimals as Fractions Test
Page 14:  1. b  2. b  3. a  4. c  5. d  6. 3/4  7. 1 1/2  8. 19/40  9. 16 1/8  10. Sixteen hundredths is written as a decimal by writing 16 so that the final significant digit, 6, ends in the hundredths place, 0.16. As a fraction, sixteen hundredths is written with 16 in the numerator, 100 in the denominator, 16/100.
Fractions as Decimals Test
Page 15: 1. d 2. b 3. c 4. d 5. a 6. 0.003 7. 0.85 8. 21.4 9. 3.875
10. $1.00 is one whole dollar. The fraction 7/20 is 7 out of 20 equal parts in one whole. When you write 7/20 as the decimal 0.35, it is the same as $0.35 out of $1.00.

Comparing Decimals Test
Page 16: 1. c 2. d 3. c 4. a 5. d 6. b 7. 2.06 < 2.8 8. 0.068, 0.6894, 0.6984, 0.864, 6.584 9. Marc has the most money. 10. Answer is any number greater than 1.2 and less than 1.3. Possible explanation: Using the hundredths place you can find a number between 1.2 and 1.3, such as 1.21.

Adding Decimals Test
Page 17: 1. a 2. d 3. c 4. b 5. d 6. b 7. $154.79 8. Amie walked and ran 6.95 miles in all. 9. The sum is 589.38. 10. When the decimal points are lined up, the places are also lined up. The places can be added easily this way without mixing them up.

Regrouping to Add Test
Page 18: 1. c 2. c 3. c 4. a 5. a 6. b 7. $334.19 8. Harrison drove 781.29 miles. 9. Denise’s total was $7.80. 10. You can group 6.1 and 3.9 together for a combined 10 and group 8.2 and 0.8 together for a combined 9. Add 10 and 9 for a total of 19.

Subtracting Decimals Test
Page 19: 1. b 2. b 3. c 4. a 5. b 6. b 7. d 8. The game costs $31.50 more than the controller. 9. 0.316 10. When you are subtracting decimal numbers, it can be helpful to use zeros as place holders when the decimal fraction parts of the number do not have the same number of places. This keeps the places lined up.

Regrouping to Subtract Test
Page 20: 1. a 2. c 3. c 4. a 5. b 6. d 7. a 8. Owen had $15.37 left. 9. 65.845 10. To subtract 0.01 from 2, you must first regroup 1 one as 9 tenths and 10 hundredths. 2 - 0.01 = 1.99
Multiplying Decimals Test

Page 21:  1. c  2. b  3. d  4. c  5. d  6. a
8. 7. b  9.  0.418  
10. Anglea earned $86.10.
120 + 242 = 362. 362 x $2.35 = $850.70

Dividing Decimals Test

Page 22:  1. b  2. d  3. c  4. a  5. a  6. b
7. The 5-pack of shorts is the bettter buy.  
8. The average weight of a puppy at birth was 9.48 ounces.
9. 0.75  
10. A square has 4 equal length sides. Divide the perimeter, 20.48, by 4 to find the length of each side, 5.12 centimeters.

Dividing by a Decimal Test

Page 23:  1. c  2. d  3. c  4. d  5. c  6. b  7. a
8. Peaches cost $6.20 per pound.
9. 6.05  
10. Write the problem using the long division symbol and move the decimal point in the dividend and divisor the same number of places to make the divisor a whole number.

Powers of Ten and Percents Test

Page 24:  1. d  2. c  3. b  4. a  5. c  6. c
7. b  8. 20% of the books in Michael’s room are science fiction.
9. 34% as a fraction is 17/50, and as a decimal is 0.34.
10. When a decimal number is multiplied by a positive power of ten, the decimal point moves one place value to the right. When a decimal number is divided by a positive power of ten, it becomes smaller. For each zero in the factor that is a power of ten, the decimal point moves one place value to the left.

Rounding and Estimating Test

Page 25:  1. b  2. d  3. b  4. b  5. b  6. a
7. No, Ana does not have enough string.
8. Yes, $65.00 is enough.
9. You could choose to overestimate to be sure that you have enough of something. If you underestimate, even by a little, you may not have whatever it is that you need.