Dimensional Analysis - Calculating Dosages Safely 3rd edition Horntvedt Test Bank

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Fractions

CHAPTER 2

1. Which of these names describes the greatest common number that divides evenly into both the numerator and the denominator of a fraction?
    1. Divisor
    2. Factor
    3. Dividend
    4. Product

2. To add fractions with different denominators, they must be _____ to have a common denominator.
    1. Transforming
    2. Averaging
    3. Lowering
    4. Raising

3. Reducing a fraction to the lowest terms involves which of the following?
    1. Finding a factor that divides evenly into both the numerator and denominator
    2. Finding a common denominator for the fractions and adding the numerators
    3. Finding a common denominator for the fractions and subtracting the smaller fraction from the larger one
    4. Multiplying the numerators and denominators of the fractions

4. Which characteristics are true about an improper fraction? ***Select all that apply.***
    1. The numerator is greater than or equal to the denominator.
    2. The value is greater than or equal to one.
    3. The numerator is less than the denominator.
    4. The numerator and denominator are both divisible by the number two.

5. Which of the following operations require finding a common denominator before completing the equation? ***Select all that apply.***
    1. Adding fractions
    2. Subtracting fractions
    3. Multiplying fractions
    4. Dividing fractions

6. Which of the following is true regarding a mixed fraction?
    1. The numerator is always greater than the denominator.
    2. The value is always less than one.
    3. It contains both a whole number and a fraction.
    4. It contains a decimal point.

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Calculate the following. If applicable, show your answer as a mixed fraction.

7. $2 + \frac{3}{4} =$ _____

8. $\frac{5}{9} + \frac{3}{9} =$ _____

9. $3\frac{3}{8} + \frac{1}{4} =$ _____

10. $16\frac{2}{7} + 4\frac{1}{3} =$ _____

11. $\frac{4}{5} - \frac{3}{5} =$ _____

12. $\frac{2}{3} - \frac{1}{3} =$ _____

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

14. $1\frac{1}{6} - \frac{4}{9} =$ _____

15. $\frac{1}{2} \times \frac{3}{8} =$ _____

16. $\frac{7}{2} \times \frac{3}{14} =$ _____

17. $3\frac{4}{5} \times \frac{1}{3} =$ _____

18. $\frac{1}{4} \div \frac{1}{8} =$ _____

19. $\frac{7}{8} \div \frac{2}{3} =$ _____

20. $2\frac{3}{10} \div 1\frac{1}{10} =$ _____

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ANSWERS

Fractions

CHAPTER 2

1. Which of these names describes the greatest common number that divides evenly into both the numerator and the denominator of a fraction?
   1. Divisor
   2. Factor
   3. Dividend
   4. Product

   ANS: 2

   Rationale: A factor is the greatest common number that divides evenly into both the numerator and the denominator.

2. To add fractions with different denominators, they must be _____ to have a common denominator.
   1. Raised
   2. Averaged
   3. Lowered
   4. Divided

   ANS: 1

   Rationale: Adding fractions with different denominators involve raising fractions to higher terms to have a common denominator.

3. Reducing a fraction to the lowest terms involves which of the following?
   1. Finding a factor that divides evenly into both the numerator and denominator
   2. Finding a common denominator for the fractions and adding the numerators
   3. Finding a common denominator for the fractions and subtracting the smaller fraction from the larger one
   4. Multiplying the numerators and denominators of the fractions

   ANS: 1

   Rationale: (1) Reducing a fraction to the lowest terms involves finding a factor that divides evenly into both the numerator and denominator. (2) refers to adding fractions, (3) refers to subtracting fractions, and (4) refers to multiplying fractions.

4. Which characteristics are true about an improper fraction? ***Select all that apply.***
   1. The numerator is greater than or equal to the denominator.
   2. The value is greater than or equal to one.
   3. The numerator is less than the denominator.
   4. The numerator and denominator are both divisible by the number two.

   ANS: 1, 2

   Rationale: An improper fraction has a numerator that is greater than or equal to the denominator. The value of an improper fraction is equal to or greater than one. A "proper"

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fraction has a numerator that is less than the denominators. Divisibility by two does not affect whether a fraction is proper or improper.

5. Which of the following operations requires finding a common denominator before completing the equation? ***Select all that apply.***
   1. Adding fractions
   2. Subtracting fractions
   3. Multiplying fractions
   4. Dividing fractions

   ANS: 1, 2

   Rationale: Adding fractions requires finding a common denominator for the fractions, adding the numerators, then reducing the result to the lowest terms. Subtracting fractions requires finding a common denominator for the fractions, subtracting the smaller fraction from the larger one, then reducing the result to the lowest terms. The other options do not require finding a common denominator.

6. Which of the following is true regarding a mixed fraction?
   1. The numerator is always greater than the denominator.
   2. The value is always less than one.
   3. It contains both a whole number and a fraction.
   4. It contains a decimal point.

   ANS: 3

   Rationale: (3) Mixed fractions contain both whole numbers and fractions. (1) refers to improper fractions, (2) refers to proper fractions, and (4) is incorrect.

7. $2 + \frac{3}{4} =$ _____

   ANS: $\mathbf{2\frac{3}{4}}$

8. $\frac{5}{9} + \frac{3}{9} =$ _____

   ANS: $\mathbf{\frac{8}{9}}$

9. $3\frac{3}{8} + \frac{1}{4} =$ _____

   ANS: $\mathbf{3\frac{5}{8}}$

10. $16\frac{2}{7} + 4\frac{1}{3} =$ _____

    ANS: $\mathbf{20\frac{13}{21}}$

11. $\frac{4}{5} - \frac{3}{5} =$ _____

    ANS: $\mathbf{\frac{1}{5}}$

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12. $\frac{2}{3} - \frac{1}{3} =$ _____

ANS: $\frac{1}{3}$

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

ANS: $2\frac{8}{9}$

14. $1\frac{1}{6} - \frac{4}{9} =$ _____

ANS: $\frac{13}{18}$

15. $\frac{1}{2} \times \frac{3}{8} =$ _____

ANS: $\frac{3}{16}$

16. $\frac{7}{2} \times \frac{3}{14} =$ _____

ANS: $\frac{3}{4}$

17. $3\frac{4}{5} \times \frac{1}{3} =$ _____

ANS: $1\frac{4}{15}$

18. $\frac{1}{4} \div \frac{1}{8} =$ _____

ANS: 2

19. $\frac{7}{8} \div \frac{2}{3} =$ _____

ANS: $1\frac{5}{16}$

20. $2\frac{3}{10} \div 1\frac{1}{10} =$ _____

ANS: $2\frac{1}{11}$

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