Chapters 1 and 2 Assessment
Study Guide

1.2: Simplify using the order of operations

Ex: \(8 + 10 \div 5 - 3\) \hspace{1cm} Ex: \(5^2 - 8 \cdot 2\)

Ex: \(\frac{16 \cdot 3 - 4}{16 - 3 \cdot 4}\) \hspace{1cm} Ex: \(25 - (2 + 2) \cdot 3\)

1.3-1.4 Translate the verbal phrase into an algebraic expression, equation, or inequality

Ex: The product of 11 and the sum of 7 and a number \(x\) is at least 12.

Ex: The quotient of a number \(b\) and 15 is no more than 40.

Ex: The number of days in \(w\) weeks.

1.3: Find the unit rate

Ex: $75 for 5 video games \hspace{1cm} Ex: 32 pencils in 8 boxes
Ex: Your monthly cell phone bill is $35, which includes the first 450 minutes. You must pay a fee for each minute you go over. Last month you paid $8.80 for using 40 extra minutes.
   a) Find the cost per minute for each extra minute.

   b) Write an expression to represent your total cost for any number of extra minutes.

   c) Find the total cost if you used 35 extra minutes.

1.4 Is a given number a solution or not
Check whether the given number is a solution to the equation or inequality. Show your work.

Ex: $6x + 7 = 25; \ x = 3$
Ex: $\frac{m}{3} + 30 < 33; \ m = 9$
Ex: $6a + 9 \geq 21; \ a = 2$

2.5: Apply the Distributive Property
   - Be able to use the distributive property and identify and combine like terms

Ex: $(p - 3)(-8)$
Ex: $3(m + 5) - 10$

Ex: $6r + 2(r + 4)$
Ex: $4 - 2(x - 3) - 3x$
You are saving to buy a new iPhone. Two of your neighbors have jobs that you can do for them. One neighbor will pay you $7 an hour to walk her two dogs and another neighbor will pay you $10 an hour to babysit. Your parents will only let you work 10 hours per week.

a) Use the information to write a simplified expression to represent the total amount of money you can make if you spend \( w \) hours walking dogs and the remaining hours babysitting.

b) Find the total amount of money you will make if you spend 7 hours a week walking dogs and the remaining hours babysitting.

- Be able to simplify division problems using the distributive property

\[
\frac{6x - 14}{2} \quad \frac{9z - 6}{-3} \quad \frac{-24a - 10}{-8}
\]

2.7: Find Square Roots and Compare Real Numbers

\[
x^2 = 49 \quad \pm \sqrt{100} \quad -\sqrt{3600}
\]

Ex: \( \text{Estimate } \sqrt{101} \) between 2 integers \quad Ex: \( \text{Estimate } -\sqrt{72} \) between 2 integers

Evaluate each expression:

\[
2\sqrt{x} - 4 \text{ when } x = 25 \quad \sqrt{x + 1} - 5 \text{ when } x = 15
\]