Academic **A** Approach®

Linear Equations with One Variable Mastery Quiz

Directions: Complete question #1-6 by selecting the best answer choice.

1. Allen opened a savings account in March and began making regular deposits of d dollars per month on June 1st. The equation $1,800 = 6d + 400$ models the amount of money in his account some number of months later. Based on the equation, which of the following is true, assuming Allen made no withdrawals from the account after June 1st?

   A) Allen initially had $\$1,400$ in his account before he began making regular monthly deposits.

   B) Allen initially had $\$1,800$ in his account before he began making regular monthly deposits.

   C) Allen made monthly deposits in the amount of $\$400$ into his account.

   D) After Allen made 6 monthly deposits, he had a total of $\$1,800$ in his account.

2. The expression $15(x - 1) + 20$ models the cost, in dollars, of renting a kayak for x hours at Keith's Kayaks. Which of the following best describes the meaning of the number 15 in the expression?

   A) Keith's Kayaks rents an average of 15 Kayaks per day.

   B) Keith's Kayaks charges $\$15$ as a base fee per kayak rental.

   C) Keith's Kayaks charges $\$15$ per hour per kayak rental.

   D) Keith's Kayaks charges $\$15$ per hour after the first hour for which the kayak is rented.

3. In the equation below, m and n are constants. For which of the following values of m and n does the equation have one unique solution?

   $4x - 2(mx - 12) = nx - 12$

   A) $m = 1, \ n = 2$

   B) $m = 2, \ n = 4$

   C) $m = 3, \ n = -2$

   D) $m = 4, \ n = -4$

4. A triangle has side lengths of $2x$, $4x$, and $5x$ inches. If the perimeter of this triangle is 44 inches, what is the value of x ?

   A) 4

   B) 6

   C) 8

   D) 11

   E) 15

5. If $3b - 9 = -15$, what is the value of $2b - 1$?

   A) -15

   B) -8

   C) -5

   D) -2

6. In the equations below, a and b represent the amount of money, in dollars, in two different bank accounts that earn simple interest after t months. If both accounts are opened at the same time, after how many months will the two accounts contain the same amount of money?

   $a = 1,000(1 + 0.04t)$
   $b = 1,200(1 + 0.025t)$