UNIT 5
MIXED REVIEW

Assessment Readiness

1. Does the given equation represent the situation?
   Select Yes or No.
   A. Bruce has 97 sports cards, and 34 of them are football cards. Find the number $y$ of sports cards that are not football cards.
   Equation: $97 + 34 = y$  
     ○ Yes  ○ No
   B. Sarah has read aloud 3 more times than Joel. Sarah has read aloud 9 times. Find the number of times $j$ Joel has read aloud.
   Equation: $j + 3 = 9$  
     ○ Yes  ○ No
   C. There are $c$ pounds of cat food. This is 4 times the weight of the bag of bird seed $b$. Write the weight of the bag of cat food in terms of the weight of the bag of bird seed.
   Equation: $c = \frac{b}{4}$  
     ○ Yes  ○ No

2. Choose True or False for each statement.
   A. $v = 4$ is a solution for $v + 5 \geq 9$.  
     ○ True  ○ False
   B. The number line below shows the solutions to the inequality $m \leq 4.4$.

   | 0 | 5 | 10 |

     ○ True  ○ False
   C. No more than 7 copies of a newspaper are left on a rack can be represented by the inequality $n \geq 7$.  
     ○ True  ○ False

3. Emily cycled 22 miles over 4 days. She cycled the same amount each day. How many miles per day did Emily cycle? What operation do you use to solve this problem?

4. Brian is playing a video game. He earns the same number of points for each star he picks up. He earns 2,400 points for 6 stars, 4,000 points for 10 stars, and 5,200 points for 13 stars. He says that the independent variable is the number of points he has earned. Is he correct? Explain.
Performance Tasks

5. Dana, Neil, and Frank are siblings. Dana is the oldest.
   a. Frank’s age is one-fourth of Dana’s age. Write an equation to represent
      Frank’s age \( f \) if Dana’s age is \( d \) years.
   b. Neil’s age is one-half of the difference between Dana’s and Frank’s ages.
      Write an equation to represent Neil’s age \( n \) in terms of Dana’s age \( d \).
   c. Use the equations to find Neil’s and Frank’s ages if Dana is 16 years old.

6. Jillian is participating in a book-reading contest to raise funds for her local
   library. For every book Jillian reads, her mother pledged to make a donation.
   a. The table shows how much Jillian’s mother will donate.
      Find the pattern, and give the amount her mother will
      donate for 9 and 21 books read.

<table>
<thead>
<tr>
<th>Books read</th>
<th>3</th>
<th>5</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money donated</td>
<td>$15</td>
<td>$25</td>
<td>$35</td>
</tr>
</tbody>
</table>

   b. Write an equation showing the pattern
      from the table. Identify the variables.
   c. Graph the equation.

7. Dr. Adams measures the daily height of a Sunny Yellow sunflower, beginning
   when the sunflower is 60 days old. At 60 days, the height is 205 centimeters.
   After the first 60 days, Dr. Adams finds that the growth rate is 2 centimeters
   per day.
   a. Write an expression for the height at \( d \) days past 60 days.
   b. In how many days will the sunflower reach 235 centimeters?
   c. The Suntracker sunflower grows 2.5 centimeters per day after the first
      60 days. If a Suntracker is 195 centimeters tall when it is 60 days old, write
      an expression to represent the Suntracker’s height \( d \) days after 60 days.
      Which sunflower will be taller when it is 82 days old? Explain how you
      found your answer.