CHAPTER 8A Warm Ups

Check Skills You'll Need — Lesson 5-4

Model each rule with a table of values.

1. $f(x) = 5x - 1$
2. $y = -3x + 4$
3. $g(t) = 0.2t - 7$
4. $y = 4x + 1$
5. $f(x) = 6 - x$
6. $c(d) = d + 0.9$

Evaluate each function rule for $n = 2$.

7. $A(n) = 2n - 1$
8. $f(n) = -3 + n - 1$
9. $g(n) = 6 - n$

Lesson Quiz — Lesson 5-4

1. Write a function rule for each table.

a.

x	y
−1	−5
0	0
1	5
2	10

b.

x	$f(x)$
−1	−4
0	−3
1	−2
2	−1

2. Write a function rule to describe each relationship.
   a. the total cost $T(c)$ of c pounds of apples at \$.82 a pound
   b. a scale model s of a moth m that is 6 times the actual size of the moth

3. You borrow \$60 to buy a bread-making machine. You charge customers \$1.50 a loaf for your special bread. Write a rule to describe your profit as a function of the number n of loaves sold.

Check Skills You'll Need — Lesson 5-6

Evaluate each expression for $x = 2, 3, 4$.

1. $9 + 3(x - 1)$
2. $8 + 7(x - 1)$
3. $0.4 - 3(x - 1)$

Subtract.

4. $8 - (-6)$
5. $-7 - 10$
6. $1.5 - 3.4$

Lesson Quiz — Lesson 5-6

1. Use inductive reasoning to describe each pattern. Then find the next two numbers in each pattern.

   a. 1, 2.5, 4, . . . b. $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \ldots$

2. Find the common difference of each arithmetic sequence.

   a. $-1, -\frac{2}{3}, -\frac{1}{3}, 0, \ldots$ b. 46, 34, 22, 10, . . .

3. Find the second, sixth, and ninth terms of the sequence that has the rule $A(n) = -3 + (n - 1)(6)$.

4. Is $-2, 3, 8, 10, \ldots$ an arithmetic sequence? Explain.

Check Skills You'll Need — Lesson 8-6

Find the common difference of each sequence.

1. 1, 3, 5, 7, . . .
2. 19, 17, 15, 13, . . .
3. 1.3, 0.1, −1.1, −2.3, . . .
4. 18, 21.5, 25, 28.5, . . .

Use inductive reasoning to find the next two numbers in each pattern.

5. 2, 4, 8, 16, . . .
6. 4, 12, 36, . . .
7. 0.2, 0.4, 0.8, 1.6, . . .
8. 200, 100, 50, 25, . . .

Lesson Quiz — Lesson 8-6

1. Find the common ratio of the geometric sequence $-3, 6, -12, 24, \ldots$

2. Find the next three terms of the sequence $243, 81, 27, 9, \ldots$

3. Determine whether each sequence is arithmetic or geometric.
   a. $37, 34, 31, 28, \ldots$
   b. $8, -4, 2, -1, \ldots$

4. Find the first, fifth, and ninth terms of the sequence that has the rule $A(n) = 4(5)^{n-1}$.

5. Suppose you enlarge a photograph that is 4 in. wide and 6 in. long so that its dimensions are 20% larger than its original size. Write a rule for the length of the copies. What will be the length if you enlarge the photograph five times? (Hint: The common ratio is not just 0.2. You must add 20% to 100%.)