

8-2 Practice**Sequences and Equations**

Write an equation that describes each sequence.

1. 46, 52, 58, 64, ...

2. 5, 13, 21, 29, ...

3. 9, 14, 19, 24, ...

4. 11, 14, 17, 20, ...

5. 3, 5, 7, 9, ...

6. 44, 60, 76, 92, ...

Write an equation that describes each sequence. Then find the indicated term.

7. 20, 33, 46, 59, ...; 17th term

8. 29, 38, 47, 56, ...; 21st term

9. 101, 103, 105, 107, ...; 30th term

10. 64, 67, 70, 73, ...; 44th term

11. 26, 29, 32, 35, ...; 57th term

12. 112, 140, 168, 196, ...; 74th term

13. RUNNING Luisa ran 3 miles on the 3rd day of a month, and she repeated her run every 4 days for the rest of the month. What equation describes the sequence of days of that month that Luisa ran?

14. DEPRECIATION A new hybrid car costs \$25,000. If it depreciates at \$2000 of its value each year, find the value of the car over the next 5 years.

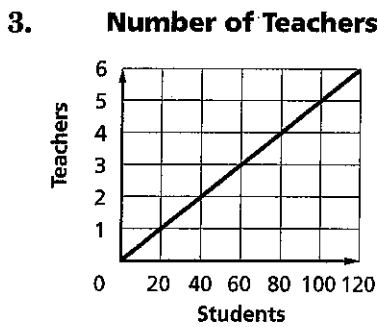
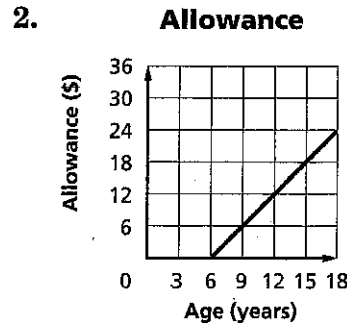
8-5 Skills Practice

Constant Rate of Change and Direct Variation

Find the constant rate of change for each linear function and interpret its meaning.

1.

Gallons	Quarts
x	y
1	4
2	8
3	12
4	16



4.

Width (ft)	Height (in.)
x	y
2	10
4	14
6	18
8	22

Determine whether a proportional linear relationship exists between the two quantities shown in each of the functions indicated. Explain your reasoning.

5. Exercise 1
6. Exercise 2
7. Exercise 3
8. Exercise 4

Chapter 8 (part 1) Bringing it all together Functions, Sequences, Rate of Change

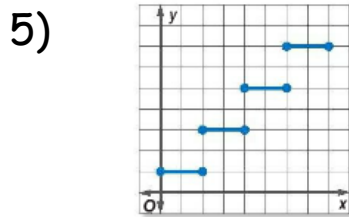
I. Determine whether each relation is a function (1 point).

Explain (1 point).

- 1) $\{(0,5), (1,2), (1,-3), (2,4)\}$
- 2) $\{(-6,3.5), (-3,4), (0,4.5), (3,5)\}$
- 3) $\{(3,2), (-3,2), (4,4), (-4,4)\}$

4)

x	4	7	6	3	5	2
y	6	10	11	8	4	9



II. Given the function, find each specific function value (1 point).

- 6) _____ If $f(x) = -7x - 3$, find the function value for $f(-3)$.
- 7) _____ If $f(x) = 12x - 11$, find the function value for $f(5)$.

III. Describe each sequence using words (1 point) **and symbols** (1 point):

- 8) 4, 5, 6, 7...
- 9) 9, 18, 27, 36 ...
- 10) 3, 5, 7, 9 ...
- 11) 2.5, 5, 7.5, 10, 12.5 ...

Name _____ Date _____ Pd _____

IV. Write an equation that describes each sequence (1 point). Then find the indicated term (1 point):

12) 12, 13, 14, 15 ...; 15th term

13) 6, 11, 16, 21 ...; 30th term

14) 7, 12, 17, 22 ...; 20th term

V. Find the rate of change for each linear function:

15)

Saving Money	
Number of Weeks	Amount Saved (\$)
x	y
3	25
4	40
5	55
6	70

16)

Water in Bucket	
Time (s)	Amount of Water (oz)
x	y
2	80
4	48
6	16

VI. Use the graph at the right to determine whether each statement is TRUE or FALSE. Then, explain your reasoning.

17) There is a constant rate of change.

18) The two quantities are proportional.

19) A proportional linear relationship exists.

20) The total cost varies directly with the number of t-shirts.

