

Chapter Test

Form A

Chapter 5

Sketch a graph of each situation. Label each section.

- the height of an elevator above the ground
- the speed of a freight train going through the mountains

Determine whether each relation is a function.

3.

x	y
-4	2
-2	1
0	0
1	2

4.

x	y
-3	-2
4	-1
8	-1
4	-2

- Explain how to determine from a list of ordered pairs whether it is a function.

Find the range of each function when the domain is $\{-4, -1, 0, 1.5, 5\}$.

6. $f(b) = -2b + 6$

7. $f(x) = 3x^2 - 4$

Model each rule with a table of values and a graph.

8. $f(x) = \frac{3}{2}x + 2$

9. $f(x) = 2x^2 - 3$

Write a function rule to describe each statement.

- the cost of staying in a motel at \$35 per night
- the amount of money you earn working for \$5.50 an hour
- change from a \$5 bill when buying apples at \$.89 per pound

Write a function for each table of values.

13.

x	y
-2	-3
-1	-1
0	1
1	3
2	5

14.

x	y
-4	2
-2	1
0	0
2	-1
4	-2

- Open-Ended** Write a description of a situation that could be modeled by the equation $y = 10 - x$.

Chapter Test (continued)

Form A

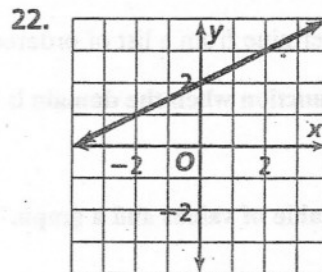
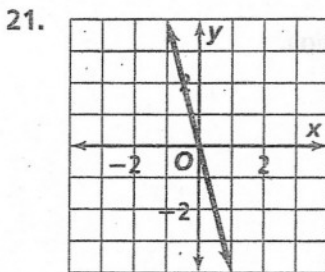
Chapter 5

16. The cost of renting a chainsaw depends on the number of hours rented. The rental store charges \$13.50/h.
- Write a rule to describe the function.
 - What is the cost of renting the chainsaw for 6 hours?
 - If you had \$200 to rent a chainsaw, for how many hours could you rent one?

Write the equation of direct variation that includes the given point.

17. (3, 1) 18. (-2, 4) 19. (-6, 4) 20. (-2, -5)

Determine which of the following graphs shows a direct variation. Write an equation for each direct variation.



Find the constant of variation in each direct variation.

23. $f(x) = -3x$ 24. $5y = 13x$ 25. $x - y = 0$

26. **Writing** Explain when a relation is also a function.

27. The distance traveled on a trip at constant rate varies directly with the time traveled. If the rate is 65 mi/h, how long will it take to travel 330 miles?

Find the common difference in each arithmetic sequence. Then find the next three terms.

28. 11, 6.5, 2, -2.5, ... 29. -17, -14, -11, -8, ...

Find the fifth term of each arithmetic sequence.

30. $A(n) = -3 - (n - 1)(1.5)$ 31. $A(n) = \frac{1}{2} + (n - 1)\left(\frac{1}{4}\right)$

Is each given sequence arithmetic? Justify your answer.

32. 8.4, 6.2, 4, 1.8, ... 33. 3, -2, 1, 0, ...