Math 1 Chapter 3 Study Guide

Determine whether the relation is a <u>FUNCTION or NONFUNCTION</u>. Explain.
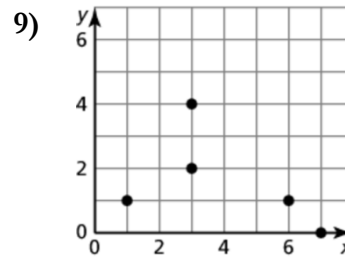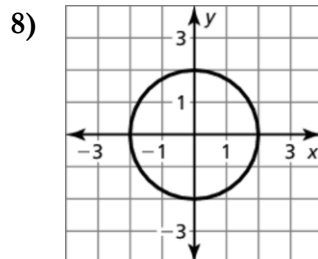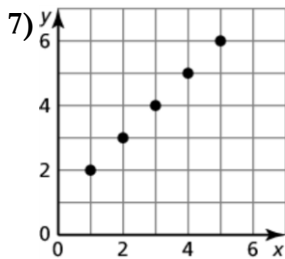
1) $(2, 3), (4, 5), (-4, 7), (2, 8), (9, 10)$ **2)** $(-5, 2), (-3, 8), (0, 1), (3, 7), (5, 11)$

3) $(4, 3), (7, 3), (9, 3), (-2, 3), (3, 3)$ **4)** $(1, 4), (7, -11), (0, -22), (1, 8), (-1, 67)$
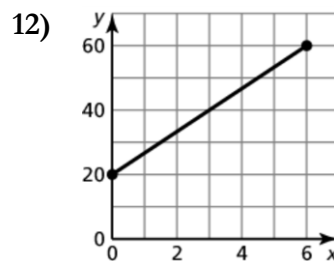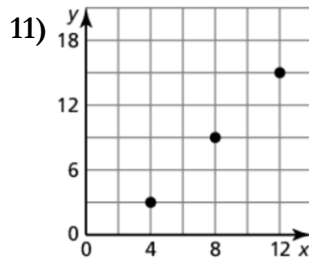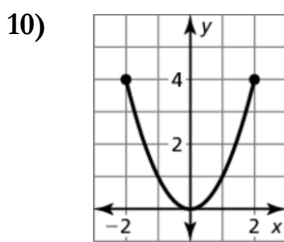
5)

x	0	1	2	3
y	-2	0	2	4

6)

Input	-2	0	2	-2
Output	10	7	4	1

Determine whether the graph represents a <u>FUNCTION or NONFUNCTION</u>, and identify if it is discrete or continuous.

7)

8)

9)

Find the domain and range of the following.

10)

11)

12)

13) The function $y = -3x + 44$ represents the amount of money left in your school lunch account y (in dollars) after x days.

     a. Identify the independent and dependent variables.

     b. If the domain is 1, 2, 3, and 4, find the range of the function.

Determine whether the table represents a <u>LINEAR or NONLINEAR</u> function. Explain.

14)

x	0	1	2	3
y	7	11	15	19

15)

Input	2	4	6	8
Output	1	2	8	16

Determine whether the equation represents a <u>LINEAR or NONLINEAR</u> function. Explain.

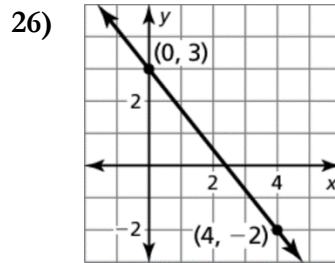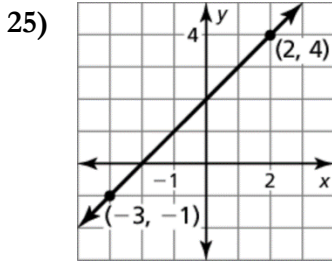**16)** $y = x^4 - 2$ **17)** $2x + 3y = 5$ **18)** $y = 2x(2 - x)$

Evaluate the function when $x = -3, 0,$ and 4.

19) $f(x) = x - 5$ **20)** $g(x) = -5x + 7$ **21)** $h(x) = 3 - 2x - 12$

Find the value of *x* so that the function has the given value.

22) $f(x) = 4x; f(x) = -32$ **23)** $r(x) = \frac{1}{3}x + 2; r(x) = 4$ **24)** $q(x) = 2x + 1; q(x) = 17$

Find the slope of the line.

25)

26)

27)

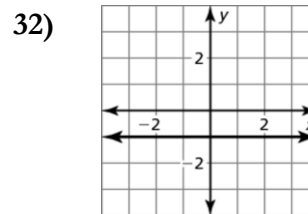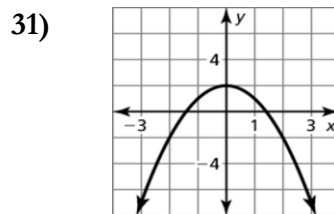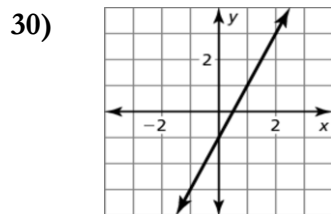| *x*	3	1	−1	−3
y	−4	1	6	11

28) **You are ordering warm-up clothes for the basketball team. The mesh shirts cost $16 each and the cotton shirts cost $8 each. You have a budget of $240 for the shirts. The equation $16x + 8y = 240$ models the total cost, where *x* is the number of mesh shirts and *y* is the number of cotton shirts.**

   a. Graph the equation. Interpret the intercepts.

   b. Four players decide they want the cotton shirts. How many mesh shirts can you order?

29) **Let $g(x)$ be the percent of your friends with a landline phone *x* years after 2000. Explain the meaning of each statement.**

   a. $g(0) = 100$ b. $g(5) = g(6)$

   c. $g(10) = m$ d. $g(11) > g(12)$

Determine whether the graph represents a LINEAR or NONLINEAR function. Explain.

30)

31)

32)

Graph the following.

33) $x = 3$ 34) $x = -2$ 35) $y = 6$

36) $y = -4$ 37) $y = 2x - 1$ 38) $y = \frac{1}{4}x + 2$

39) $y = -\frac{4}{3}x$ 40) $y = -x + 3$ 41) $y = 4x + 5$

42) $2x + 4y = 12$ 43) $-4x + 5y = 20$ 44) $2x - 3y = 18$

Find the x-intercept and y-intercept of the following.

45) $-x + 2y = 8$ 46) $4x + 4y = 24$ 47) $-6x + 5y = 60$

Solve.

48) $x + 3 = 40$ 49) $9b = -72$ 50) $2(2r - 4) = -52$

51) $b + 2 - 1 \geq 11$ 52) $8w + 7 < 3w - 3$ 53) $|x + 1| < 4$