

Name _____

Section _____

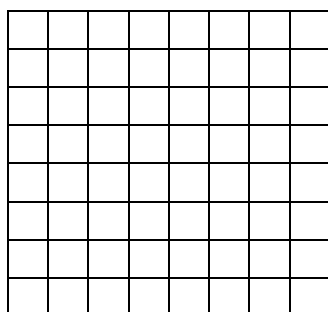
Due: Tuesday, February 5, 2013

Chapter 12 Homework Packet #2

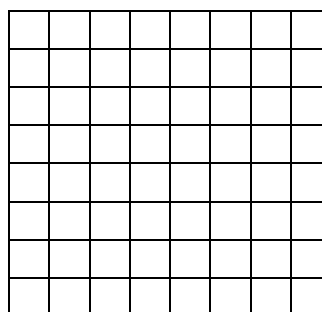
§12-4

Make a table of values and graph each function.

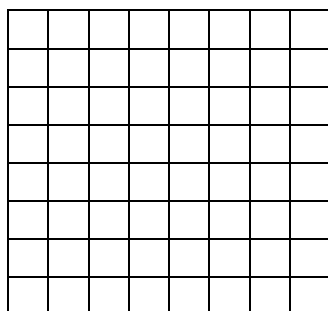
1) $y = 2x - 4$



2) $y = -(3 - x)$



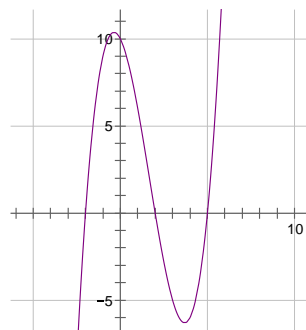
3) $y = 2(1 - x^2)$



Determine if each relationship represents a function. Provide a reason for your answer.

4) $y = \frac{1}{x}$

5)



6)

x	y
-5	5
12	-12
13	-13
81	-81

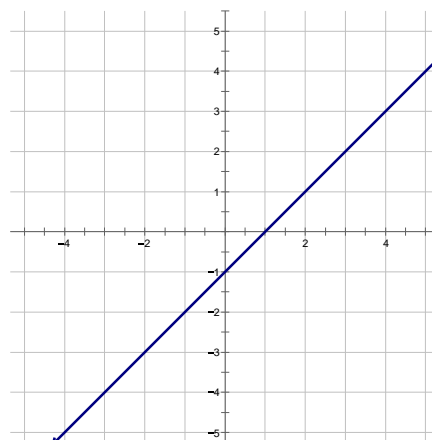
7)

x	y
6	1
-2	2
-6	-2
2	-9
8	20
6	15

For each function, find $f(0)$, $f(2)$, and $f(-3)$.

8) $f(x) = 6x^2 - 3x + 1$

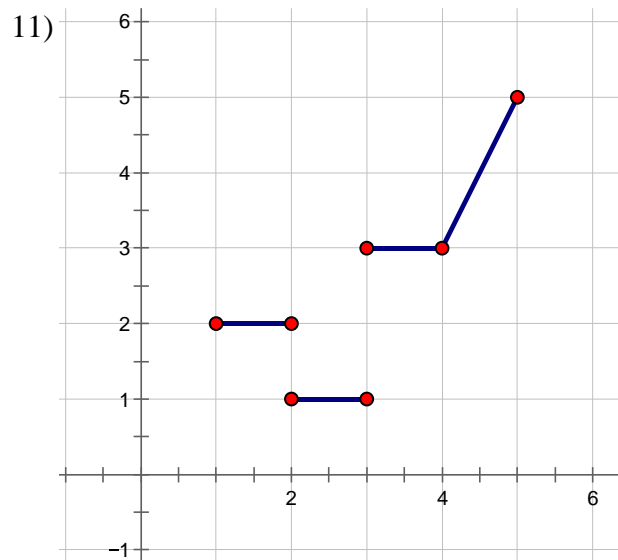
9)



10)

x	y
-3	80
-2	22
-1	15
0	11
1	27
2	8.5
3	16

Give the domain and range of each function.

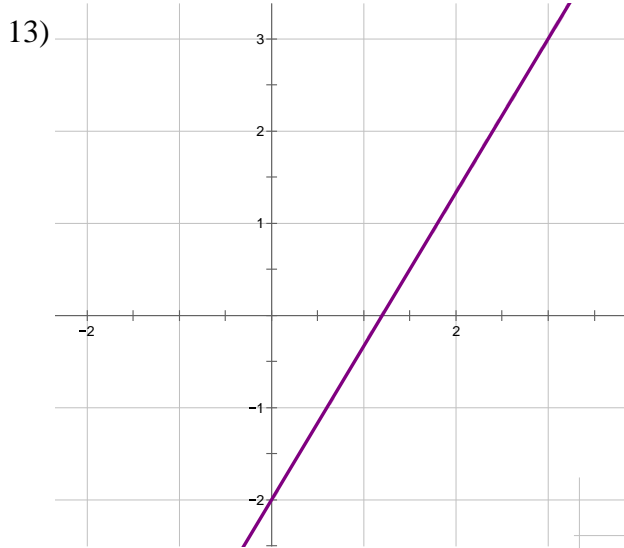


12)

x	y
-5	-9
-3	-8
0	-7
2	-6
5	-5
7	4
9	8

§12-5

Write the rule for each linear function.

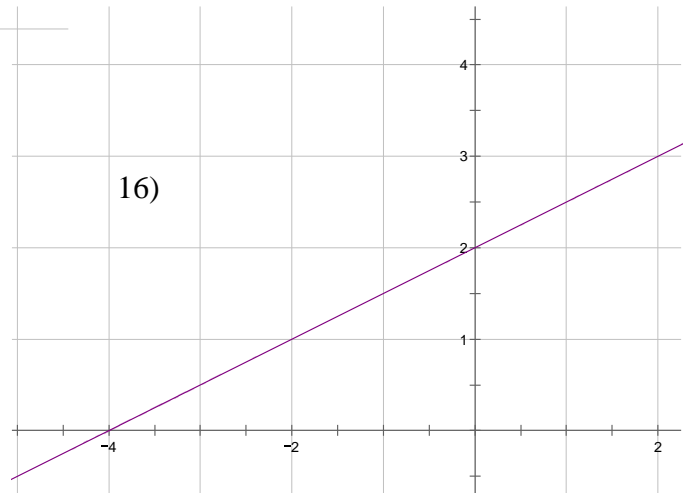


14)

x	y
-1	6
0	4
1	2
2	0

15)

x	y
-3	-7
-1	-1
1	5
3	11



Answer the question.

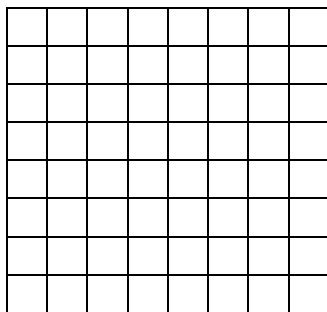
17) Kim earns \$400 per week for 40 hours of work. If she works overtime, she makes \$15 per overtime hour. Find a rule for the linear function that describes her weekly salary if she works x hours of overtime. Use your rule to show how much Kim earns if she works 7 hours of overtime.

18) A tank contains 1200 gallons of water. The tank is being drained at a rate of 45 gallons per minute. Write a rule for the linear function that describes the amount of water in the tank, and use it to determine how much water will be in the tank after 15 minutes.

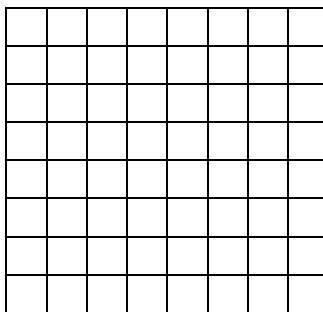
§12-6

Create a table for each exponential function. Use the table to graph the function.

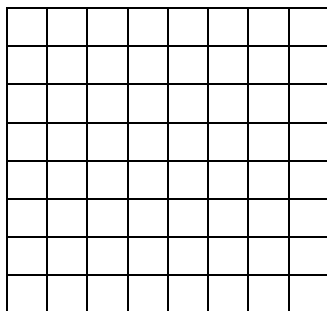
19) $y = 3^x$



20) $y = 3 \cdot 2^x$



21) $y = 50 \cdot \left(\frac{1}{3}\right)^x$



For each exponential function, identify a and p . Then, find $f(-5)$, $f(0)$, and $f(5)$.

22) $f(x) = -2 \cdot (0.2)^x$

23) $f(x) = 200 \cdot \left(\frac{1}{2}\right)^x$

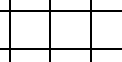
Determine if the described situation is an example of *exponential growth* or *exponential decay*. Then answer the question asked.

- 24) Carbon-14 is used by archaeologists to find the approximate age of animal and plant material. It has a half-life of 5,730 years. What percent of a sample remains after 34,380 years?
- 25) A bacterial culture contains 5000 bacteria, and the number of bacteria doubles each day. How many bacteria will be in the culture after a week?
- 26) Caffeine has a half-life of about 5 hours in adults. Two 6 oz cups of coffee contain about 200 mg caffeine. If an adult drinks 2 cups of coffee, how much caffeine will be in his system after 12 hours?

§12-7

Create a table for each quadratic function and use it to make a graph.

$$27) f(x) = x^2 + x + 3$$

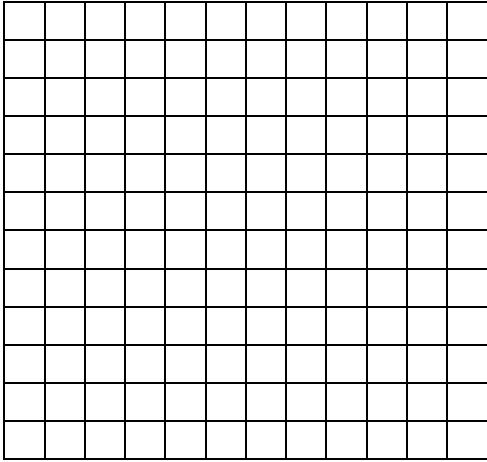


28) $f(x) = (x - 1.5)(x + 2)$

[illegible]

Create a table for each quadratic function and use it to make a graph.

29) $f(x) = -x^2 + 2x - 3$



Find $f(-3)$, $f(0)$ and $f(3)$ for each quadratic function.

30) $f(x) = x^2 + 5$

31) $f(x) = x(x - 7)$

Find the x -intercepts of each quadratic function.

32) $f(x) = (x - 2)(x + 1)$

33) $f(x) = (x - 1.8)(x + 2.6)$