

**Chapter
6**

REVIEW – Concepts #8, 9 and 10

Draw a mapping diagram of the set of ordered pairs.

1. $(0, -8), (1, -6), (2, -4), (3, -2)$ 2. $(3, 8), (4, 6), (5, 8), (6, 4)$

3. The table shows the speed of a falling parachutist.

Time (seconds)	0.1	0.2	0.3	0.4	0.5
Speed (meters per second)	0.9	1.9	2.9	3.9	4.9

a. What output would you expect for an input of 0.7 second? Explain.

Write a function rule for the statement.

4. The output is 2 less than the input. 5. The output is one third the input.

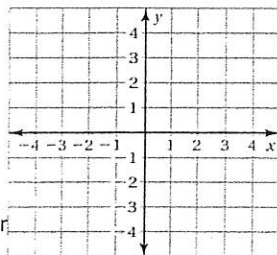
Find the value of x for the given value of y . Show work.

6. $y = 2x - 2; y = 14$ 7. $y = 5x - 1; y = -6$

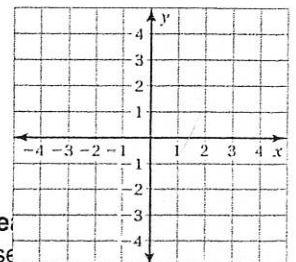
8. A clerk earns \$8 an hour. Write a function that relates the earnings E and hours worked h . How much does the clerk earn after working 40 hours?

Make a table of 3 input and output values. Graph the function.

9. $y = -x$

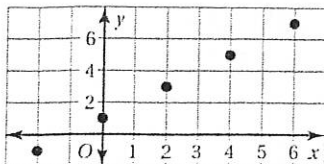


10. $y = \frac{3}{2}x + 2$



Use the graph or table to write a linear function that relates y to x .

11.



12.

x	-12	-6	0	6
y	6	3	0	-3

13. The table shows the values y (in dollars) of Car A and Car B after x years of ownership. Which function represents a **linear** function: the function for Car A, for Car B, for both, or for neither of them? **Explain.**

Years, x	0	1	2	3
Value of Car A, y	24,000	20,000	16,000	12,000
Value of Car B, y	24,000	12,000	6000	3000

Does the equation represent a **linear** or **nonlinear** function? **Explain.**

14. $y = \frac{2}{x} + 1$

15. $y + 7 = 2x + 3y$

16. An anthropologist uses the two functions below to estimate the height h of an individual given the length t of the thigh bone. Both measurements are in inches.

Male: $h = 2.2t + 27$

Female: $h = 2.3t + 24$

- If you graphed the two functions, which one would rise more steeply? How do you know?
- Find the height of a male and of a female with a 15-inch thigh bone. Show work.
- Find the length of the thigh bone of a 71-inch tall man. Show work.