Name: _____

Linear and Nonlinear Functions

Decide whether each function is linear or nonlinear.

1. Linear or nonlinear? $A = s^2$ (area of a square)

   Answer: _____

2. Linear or nonlinear? $y = 0.5x - 7$

   Answer: _____

3. Linear or nonlinear? $y = x^3$

   Answer: _____

4. Linear or nonlinear? x: 1, 2, 3, 4 and y: 1, 4, 9, 16

   Answer: _____

5. Linear or nonlinear? $y = 2^x$

   Answer: _____

6. Linear or nonlinear? $y = x^2 + 1$

   Answer: _____

7. Linear or nonlinear? $y = 6 - x$

   Answer: _____

8. Linear or nonlinear? $y = -2x$

   Answer: _____

9. Linear or nonlinear? $P = 4s$ (perimeter of a square)

   Answer: _____

10. Linear or nonlinear? x: 1, 2, 3, 4 and y: 10, 7, 4, 1

    Answer: _____

11. Linear or nonlinear? x: 0, 1, 2, 3 and y: 1, 2, 4, 8

    Answer: _____

12. Linear or nonlinear? $y = 4/x$

    Answer: _____

Name: **ANSWER KEY**

Linear and Nonlinear Functions

Decide whether each function is linear or nonlinear.

1. Linear or nonlinear? $A = s^2$ (area of a square)

   Answer: nonlinear

2. Linear or nonlinear? $y = 0.5x - 7$

   Answer: linear

3. Linear or nonlinear? $y = x^3$

   Answer: nonlinear

4. Linear or nonlinear? x: 1, 2, 3, 4 and y: 1, 4, 9, 16

   Answer: nonlinear

5. Linear or nonlinear? $y = 2^x$

   Answer: nonlinear

6. Linear or nonlinear? $y = x^2 + 1$

   Answer: nonlinear

7. Linear or nonlinear? $y = 6 - x$

   Answer: linear

8. Linear or nonlinear? $y = -2x$

   Answer: linear

9. Linear or nonlinear? $P = 4s$ (perimeter of a square)

   Answer: linear

10. Linear or nonlinear? x: 1, 2, 3, 4 and y: 10, 7, 4, 1

    Answer: linear

11. Linear or nonlinear? x: 0, 1, 2, 3 and y: 1, 2, 4, 8

    Answer: nonlinear

12. Linear or nonlinear? $y = 4/x$

    Answer: nonlinear