

Name:  
Instructor:

Date:  
Section:

## Practice Set 2.1

Use the choices below to fill in each blank.

reflexive property  
transitive property

terms  
like terms

unlike terms  
conditional equation

identity  
contradiction

1. The expression  $5x^2 + 3x - 7$  has three \_\_\_\_\_.
2. To simplify an expression means to combine all \_\_\_\_\_.
3. A linear equation with one solution is called a(n) \_\_\_\_\_.
4. A linear equation with no solution is called a(n) \_\_\_\_\_.
5. A linear equation with an infinite number of solutions is called a(n) \_\_\_\_\_.
6. The equation  $x = x$  is an example of the \_\_\_\_\_.

Name each indicated property.

7.  $a + b = a + b$  \_\_\_\_\_
8. If  $a + b = c$ , then  $c = a + b$ . \_\_\_\_\_
9. If  $a + b = c$  and  $c = 10$ , then  $a + b = 10$  \_\_\_\_\_

Simplify each expression.

10.  $8x + 9y - 11 - 5x - 3y$  \_\_\_\_\_
11.  $10.6x^2 + -7.2x + 9.8x^2 + 5.9x$  \_\_\_\_\_
12.  $3(f + g) - 2(f - g) + 9$  \_\_\_\_\_
13.  $a^2b + b^2c - [-(ab + 4a^2b) - b^2c]$  \_\_\_\_\_

Solve each equation.

14.  $6a - 1 = 17$  \_\_\_\_\_
15.  $5x + 3 = 2x + 9$  \_\_\_\_\_
16.  $7m - 8 = 5(m - 2)$  \_\_\_\_\_
17.  $-6(y - 3) = -4(y + 5)$  \_\_\_\_\_
18.  $\frac{1}{2}(8s - 12) = \frac{1}{3}(s + 4)$  \_\_\_\_\_
19.  $\frac{2}{3}f + \frac{4}{5} = 3f$  \_\_\_\_\_

Practice Set 2.1

Solve each equation.

20.  $\frac{5}{6}x - \frac{3}{8} = \frac{1}{3}x + \frac{3}{4}$

21.  $\frac{3t - 8}{2} = -7$

20. \_\_\_\_\_

21. \_\_\_\_\_

22.  $d - (d - 4) = 4(d - 1)$

23.  $3(w - 1) - 2(w + 6) = 4w - 3$

22. \_\_\_\_\_

23. \_\_\_\_\_

24.  $0.4(x - 5) = 0.3(x + 7)$

25.  $5.3x - 2.4(x - 2) = -8.25$

24. \_\_\_\_\_

25. \_\_\_\_\_

Find the solution set for each equation. Then indicate whether the equation is conditional, an identity, or a contradiction.

26.  $2(x - 5) + 3(x + 6) = 5x + 8$

27.  $7x + 14 - 8x = -5(x - 3) + 4x$

26. \_\_\_\_\_

27. \_\_\_\_\_

28.  $6(x - 1) + 7 = 3(2x - 5) + 10$

29.  $8 - \left(\frac{1}{3}x + 3\right) = 4\left(-\frac{1}{12}x + 3\right)$

28. \_\_\_\_\_

29. \_\_\_\_\_

**Problem Solving**

30. According to the Food and Agricultural Organization of the United Nations, the average catch per fisherman in African lakes is 2.3 tons per year. Use the equation  $C = 2.3y$ , where  $C$  is the tons of catch and  $y$  is the number of years, to find how much fish 10 African fisherman harvest in 10 years. [Source: www.fao.org]

30. \_\_\_\_\_