



## 7.2 Factoring Algebraic Expressions

Name: \_\_\_\_\_

### Distribute

1.  $-3(x - 5)$

3.  $(n + 6) \cdot 5$

5.  $-7(-4 + 5k)$

2.  $3(5 + 5x)$

4.  $-8(1 - 5x)$

6.  $(-6p + 7) \cdot 4$

### Complete the factored form of the equations.

7.  $18a + 3 = 3(\text{_____} + \text{_____})$

10.  $-6f - 30 = -6(\text{_____} + \text{_____})$

8.  $16a + 10 = 2(\text{_____} + \text{_____})$

11.  $15x - 20xy = 5x(\text{_____} - \text{_____})$

9.  $4x + 8y = 4(\text{_____} + \text{_____})$

12.  $3x - 21y = 3(\text{_____} - \text{_____})$

### Factor each expression.

13.  $-6a - 48$

17.  $2p + p$

21.  $5x + 10x + 45$

14.  $4 + 36x$

18.  $14e - 7$

22.  $15m - 30 - 75m$

15.  $-30n + 42$

19.  $24b - 28 + 16b$

23.  $5b - 5$

16.  $x - 5x$

20.  $6d - 2d + 12$

24.  $-50 - 5x$

25. Circle the expressions that have like terms.

14m + mn

4 - 3p

2y + 2x + 4

8xy - 6xy

5t + 7t - t

**Combine like terms**

26.  $-6m + 4m$

28.  $9x + 4.88x - 14x + 9.88x$

27.  $39z + 17z + 15z + 11z$

29.  $f + 3f + 0.5f$

30. Café Rio gave out coupons for 5% off the total purchase of an order. Let  $x$  be the original price of the meal. Use the expression  $x - .05x$  for the new price of the purchase. Write an equivalent expression by combining like terms.

31. Ms. Tomeo's art class made some drawings. The class voted and the best drawing was enlarged by 49% to display in the cafeteria. Let  $w$  represent the original drawing. The expression  $w + 0.49w$  is one way to represent the new drawing. Circle the expressions that will also give the area of the new drawing.

149w

$w + 49w$

0.49w

$w(1 + 0.49)$

1.49w

32. The Taylorsville rec center is adding a tile border to their swimming pool. Let  $x$  represent the width of the pool. The length is 3 more than 2 times the width. Circle the expressions that will give the perimeter of the pool.

$6x + 6$

$x + 2x + 3 + x + 2x + 3$

$3x + 3$

$x + 2x + 3$

$6x + 3$

$2x + 2x + 3$

**Review**

33. Does the table show a proportional relationship?

x	5	6	7	8
y	90	108	126	144

34. Does the equation  $y = 3x + 7$  show a proportional relationship?

35. Your brother's car can go 228 miles on 6 gallons of gas. During a drive last weekend, your brother used 7 gallons of gas. How far did he go?

**36.** On a map, 1 inch equal 7.2 miles. Two houses are 1.5 inches apart on the map. What is the actual distance between the houses?