

## 1.8b EXPONENTIAL NOTATION AND ORDER OF OPERATIONS

Simplify: [Note:  $(-5y)^2 = (-5y)(-5y) = (-5)(-5)yy = 25y^2$ ]

1.  $(3x)^2 =$  \_\_\_\_\_

2.  $(-2a)^3 =$  \_\_\_\_\_

3.  $-3(x)^4 =$  \_\_\_\_\_

Find the absolute value of the following.

4.  $|2| =$

5.  $|-2| =$

6.  $-|3| =$

7.  $-|-6| =$

Simplify using the order of operations:

8.  $3 \cdot 2^2 =$

9.  $20 \div 2(-5)$

10.  $6 - 2[(3-6) \cdot 2]^2$

11.  $|3(-5)| - 5^2$

12.  $-14 - 2(6) + 4$

13.  $\frac{4(5-2)}{4^2 - 2^2}$

Evaluate:

14.  $40 \div 5x$ , for  $x = 4$

15.  $5 - 2a^3$ , for  $a = -2$

16.  $3y \div 2y^2$ , for  $y = 4$

17.  $8 - x^3$ , for  $x = -1$

18.  $24 \div a(3)$ , for  $a = -2$

Simplify: Multiply using the Distributive Law then combine like terms.

19.  $-(5y + 6)$

20.  $-(3x - y + 8)$

21.  $7m - (4m - 3)$

22.  $5m^2 + m - 2(3m + 4)$

23.  $-(4x - 3y)$

24.  $10w - (5 + w)$

25.  $3x - 4x - 3(2x - 4)$