## 1-2

# Practice

Form G

Order of Operations and Evaluating Expressions

Simplify each expression.

**1.** 4<sup>2</sup>

**2.** 5<sup>3</sup>

**3.** 1<sup>16</sup>

 $4.\left(\frac{5}{6}\right)^2$ 

**5.**  $(1+3)^2$ 

**6.**  $(0.1)^3$ 

**7.** 5 + 3(2)

**8.**  $\left(\frac{16}{2}\right) - 4(5)$ 

**9.**  $4^4(5) + 3(11)$ 

**10.**  $17(2) - 4^2$ 

**11.**  $\left(\frac{20}{5}\right)^3 - 10(3)^2$ 

**12.**  $\left(\frac{27-12}{8-3}\right)^3$ 

**13.**  $(4(5))^3$ 

**14.**  $2^5 - 4^2 \div 2^2$ 

**15.**  $\left(\frac{3(6)}{17-5}\right)^4$ 

Evaluate each expression for s = 2 and t = 5.

**16.** *s* + 6

**17.** 5 − *t* 

**18.**  $11.5 + s^2$ 

**19.**  $\frac{s^4}{4}$  - 17

**20.**  $3(t)^3 + 10$ 

**21.**  $s^3 + t^2$ 

**22.**  $-4(s)^2 + t^3 \div 5$ 

 $23. \left(\frac{s+2}{5t^2}\right)^2$ 

**24.**  $\left(\frac{3s(3)}{11-5(t)}\right)^2$ 

**25.** Every weekend, Morgan buys interesting clothes at her local thrift store and then resells them on an auction website. If she brings \$150.00 and spends s, write an expression for how much change she has. Evaluate your expression for s = \$27.13 and s = \$55.14.

### Practice(continued)

Form G

### Order of Operations and Evaluating Expressions

**26.** A bike rider is traveling at a speed of 15 feet per second. Write an expression for the distance the rider has traveled after s seconds. Make a table that records the distance for 3.0, 5.8, 11.1, and 14.0 seconds.

Simplify each expression.

**27.** 
$$4[(12+5)-4^4]$$

**28.** 
$$3[(4-6)^2+7]^2$$

2.5[13 
$$-\left(\frac{36}{6}\right)^2$$
]

**30.** 
$$[(48 \div 8)^3 - 7]^3$$

$$31. \left(\frac{4(-4)(3)}{11-5(1)}\right)^3$$

**32.** 
$$4[11 - (55 - 3^5) \div 3]$$

- **33. a.** If the tax that you pay when you purchase an item is 12% of the sale price, write an expression that gives the tax on the item with a price p. Write another expression that gives the total price of the item, including tax.
  - **b.** What operations are involved in the expressions you wrote?
  - **c.** Determine the total price, including tax, of an item that costs \$75.
  - **d.** Explain how the order of operations helped you solve this problem.
- **34.** The cost to rent a hall for school functions is \$60 per hour. Write an expression for the cost of renting the hall for h hours. Make a table to find how much it will cost to rent the hall for 2, 6, 8, and 10 hours.

Evaluate each expression for the given values of the variables.

**35.** 
$$4(c+5)-f^4$$
;  $c=-1, f=4$ 

**36.** 
$$-3[(w-6)^2 + x]^2$$
;  $w = 5$ ,  $x = 6$ 

**37.** 
$$3.5[h^3 - \left(\frac{3j}{6}\right)^2]$$
;  $h = 3, j = -4$ 

**38.** 
$$x[y^2 - (55 - y^5) \div 3]; x = -6, y = 6$$