

1.2 EXERCISES

HOMWORK KEY

◆ = **MULTIPLE CHOICE PRACTICE**
Exs. 21, 22, 31, 43, and 51–53

○ = **HINTS AND HOMEWORK HELP**
for Exs. 15, 25, and 41 at classzone.com

SKILLS • PROBLEM SOLVING • REASONING

- VOCABULARY** According to the order of operations, which operation would you perform first in simplifying $50 - 5 \times 4^2 \div 2$?
- WRITING** Describe the steps you would use to evaluate the expression $2(3x + 1)^2$ when $x = 3$.

EXAMPLES

1 and 2

on pp. 11–12
for Exs. 3–21

EVALUATING EXPRESSIONS Evaluate the expression.

- | | | | |
|--------------------------------|---------------------------------|-----------------------------------|-------------------------|
| 3. $13 - 8 + 3$ | 4. $8 - 2^2$ | 5. $3 \cdot 6 - 4$ | 6. $5 \cdot 2^3 + 7$ |
| 7. $48 \div 4^2 + \frac{3}{5}$ | 8. $1 + 5^2 \div 50$ | 9. $2^4 \cdot 4 - 2 \div 8$ | 10. $4^3 \div 8 + 8$ |
| 11. $(12 + 72) \div 4$ | 12. $24 + 4(3 + 1)$ | 13. $12(6 - 3.5)^2 - 1.5$ | 14. $24 \div (8 + 4^2)$ |
| 15. $\frac{1}{2}(21 + 2^2)$ | 16. $\frac{1}{6}(6 + 18) - 2^2$ | 17. $\frac{3}{4}[13 - (2 + 3)]^2$ | 18. $8[20 - (9 - 5)^2]$ |

ERROR ANALYSIS Describe and correct the error in evaluating the expression.

19.

$$\begin{aligned} (1 + 13) \div 7 + 7 &= 14 \div 7 + 7 \\ &= 14 \div 14 \\ &= 1 \end{aligned}$$

20.

$$\begin{aligned} 20 - \frac{1}{2} \cdot 6^2 &= 20 - 3^2 \\ &= 20 - 9 \\ &= 11 \end{aligned}$$

- ◆ **MULTIPLE CHOICE** What is the value of $3[20 - (7 - 5)^2]$?
 (A) 48 (B) 56 (C) 192 (D) 972
- ◆ **MULTIPLE CHOICE** What is the value of $\frac{x^2}{25} + 3x$ when $x = 10$?
 (A) 26 (B) 34 (C) 43 (D) 105

EVALUATING EXPRESSIONS Evaluate the expression.

- $4n - 12$ when $n = 7$
- $11 + r^3 - 2r$ when $r = 5$
- $3(m^2 - 2)$ when $m = 1.5$
- $\frac{k^2 - 1}{k + 3}$ when $k = 5$
- $6t^2 - 13$ when $t = 2$
- $5(w - 4)$ when $w = 7$
- $y^2 - 2y + 1$ when $y = 7$
- $\frac{b^3 - 21}{5b + 9}$ when $b = 3$
- ◆ **MULTIPLE CHOICE** Which is the first *incorrect* step in evaluating the expression $p^2 \div 2 + p$ when $p = 6$?
 Step 1 $p^2 \div 2 + p = 6^2 \div 2 + 6$
 Step 2 $= 36 \div 2 + 6$
 Step 3 $= 36 \div 8$
 Step 4 $= 4.5$
 (A) Step 1 (B) Step 2 (C) Step 3 (D) Step 4