



EXAMPLE 4 TAKS PRACTICE: Multiple Choice

A group of 10 students volunteers to collect litter for one day. A sponsor provides 1 juice drink and 2 sandwiches for each student, and pays \$25 for trash bags. The sponsor's cost (in dollars) is given by the expression $10(j + 2s) + 25$ where j is the cost of a juice drink and s is the cost of a sandwich. A juice drink costs \$1.05 and a sandwich costs \$1.75? What is the sponsor's cost?

- (A) \$53.00 (B) \$60.50 (C) \$70.50 (D) \$93.00



Solution

$$\begin{aligned}
 10(j + 2s) + 25 &= 10(1.05 + 2 \cdot 1.75) + 25 && \text{Substitute 1.05 for } j \text{ and 1.75 for } s. \\
 &= 10(1.05 + 3.50) + 25 && \text{Multiply within parentheses.} \\
 &= 10(4.55) + 25 && \text{Add within parentheses.} \\
 &= 45.50 + 25 && \text{Multiply.} \\
 &= 70.50 && \text{Add.}
 \end{aligned}$$

► The sponsor's cost is \$70.50. The correct answer is C. (A) (B) (C) (D)

ELIMINATE CHOICES

You can eliminate choices A and D by estimating. When j is about 1 and s is 2, the value of the expression is about $10(1 + 4) + 25$, or \$75.



GUIDED PRACTICE for Example 4

11. **WHAT IF?** In Example 4, suppose the number of volunteers doubles. Does the sponsor's cost double as well? *Explain.*

1.2 EXERCISES

HOMEWORK KEY

= WORKED-OUT SOLUTIONS on p. 000 for Exs. 16 and 35

= TAKS PRACTICE AND REASONING Exs. 19, 31, 37, 39, 40, 41, and 42

SKILL PRACTICE

- 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 $x = 3$.

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. $8[20 - (9 - 5)^2]$ |

EXAMPLES 1 and 2
on pp. 8–9
for Exs. 3–21