1. The student council is organizing a school fair. Council members are making signs to show the prices for admission and for each game a person can play.

> **SCHOOL FAIR**
> Admission $2.00
> Price per Game $0.25

Let x represent the number of games. Which expression can be used to determine the total amount, in dollars, a person pays for admission and playing x games?

A. 2.25

C. $2 + 0.25x$

B. $2.25x$

D. $2x + 0.25$

Test-Taking Strategy
Solve Directly or Eliminate Choices

How many hyenas are $5 - 2^2 - 1$ hyenas?
(A) 0   (B) 2   (C) 8   (D) 10

Survival strategy: A

"Which strategy would you use on this one: **solve directly** or **eliminate choices**?"

2. Which property does the equation below represent?

$$17 \cdot 44 + 17 \cdot 56 = 17 \cdot 100$$

F. Distributive Property

H. Associative Property of Multiplication

G. Identity Property of Multiplication

I. Commutative Property of Multiplication

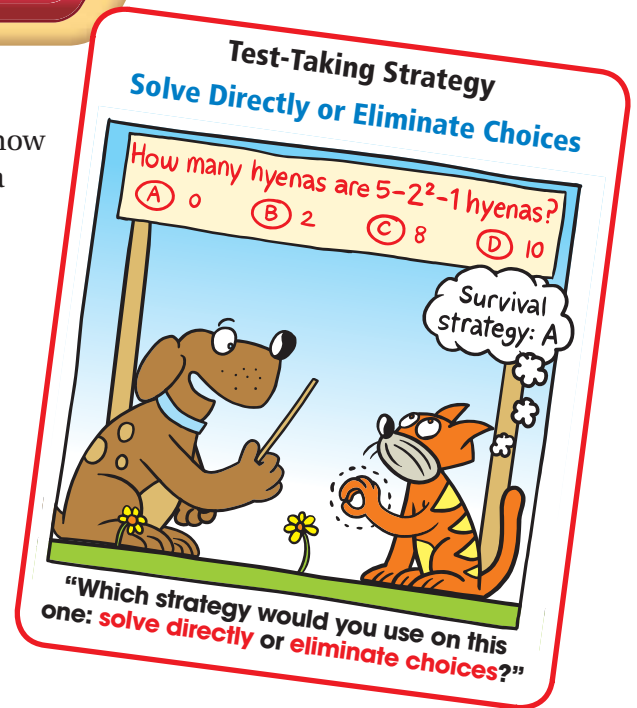**3.** At a used book store, two types of books can be purchased.

The expression $3h + 2p$ can be used to find the total cost for h hardcover books and p paperback books. What is the total cost, in dollars, for 6 hardcover books and 4 paperback books?

Hardcover Books - $3   Paperback Books - $2

4. Which equation is *not* true for all numbers a and b?

A. $a \times b = b \times a$

C. $a + b = b + a$

B. $a - b = b - a$

D. $a + b + 0 = a + b$

5. You are selling items for a fundraiser. You are selling school folders for 75 cents each and school pencils for 20 cents each. Let f represent the number of folders and p represent the number of pencils. Which expression can be used to determine the total amount of money, in cents, you earn?

    F. $75f \cdot 20p$ **H.** $95(f \cdot p)$

    G. $75f + 20p$ **I.** $95(f + p)$

6. Properties of addition and multiplication are used to simplify an expression.

$$
\begin{aligned}
36 \cdot 23 + 33 \cdot 64 &= 36 \cdot 23 + 64 \cdot 33 \\
&= 36 \cdot 23 + 64 \cdot (23 + 10) \\
&= 36 \cdot 23 + 64 \cdot 23 + 64 \cdot 10 \\
&= x \cdot 23 + 64 \cdot 10 \\
&= 2300 + 640 \\
&= 2940
\end{aligned}
$$

What number belongs in place of the x?

7. Which property was used to simplify the expression?

$$
\begin{aligned}
(47 \times 125) \times 8 &= 47 \times (125 \times 8) \\
&= 47 \times 1000 \\
&= 47{,}000
\end{aligned}
$$

    A. Distributive Property

    B. Identity Property of Multiplication

    C. Associative Property of Multiplication

    D. Commutative Property of Multiplication

8. What is the value of the expression below when $a = 5$, $b = 7$, and $c = 6$?

$$9b - 4a + 2c$$

    F. 29   **H.** 55

    G. 31   **I.** 78

9. Which equation correctly demonstrates the Distributive Property?

A. $a(b + c) = ab + c$

C. $a + (b + c) = (a + b) + (a + c)$

B. $a(b + c) = ab + ac$

D. $a + (b + c) = (a + b) \cdot (a + c)$

10. A common rule for deciding how many tropical fish to put into an aquarium is

Red–eye Tetra

├──── 3 inches ────┤

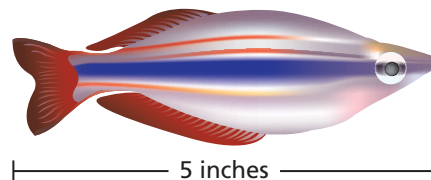   1 inch of fish for every 1 gallon of water.

You are considering putting two types of fish into your new 60-gallon aquarium.

Banded Rainbow

Let t represent the number of red-eye tetras and b represent the number of banded rainbows. Which equation can be used to determine how many of each type of fish you can put into your aquarium?

├──────── 5 inches ────────┤
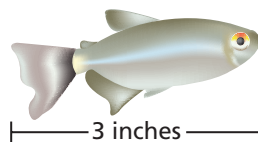
F. $3t + 5b = 60$

H. $15(t + b) = 60$

G. $3b + 5t = 60$

I. $8(b + t) = 60$

11. Use the properties of multiplication to simplify the expression in an efficient way.

Think
Solve
Explain

$$(25 \times 18) \times 4$$

Show your work and explain how you used the properties of multiplication.

12. You evaluated an expression using $x = 6$ and $y = 9$. You correctly got an answer of 105. Which expression did you evaluate?

A. $3x + 6y$

C. $6x + 9y$

B. $5x + 10y$

D. $10x + 5y$

13. Camilla and Debbie went to the beach and collected seashells. The number of seashells Debbie collected was 3 less than twice the number of shells Camilla collected. Let c represent the number of seashells Camilla collected. Which of the following represents the number of seashells Debbie collected?

F. $3 - 2c$

H. $2c - 3$

G. $3 < 2c$

I. $2c < 3$