**Problem Solving**

**Order of Operations**

Evaluate each expression to complete the table.

<table>
<thead>
<tr>
<th>Mammal</th>
<th>Expression</th>
<th>Tail Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asian elephant</td>
<td>$2 + 3^2 \cdot 7 - (10 - 4)$</td>
<td></td>
</tr>
<tr>
<td>2. Leopard</td>
<td>$5 \cdot 6 + 5^2$</td>
<td></td>
</tr>
<tr>
<td>3. African elephant</td>
<td>$6 \cdot (72 \div 8) - 3$</td>
<td></td>
</tr>
<tr>
<td>4. African buffalo</td>
<td>$51 + 6^2 \div 9 - 12$</td>
<td></td>
</tr>
<tr>
<td>5. Giraffe</td>
<td>$4^3 - 3 \cdot 7$</td>
<td></td>
</tr>
<tr>
<td>6. Red kangaroo</td>
<td>$11 + 48 \div 6 \cdot 4$</td>
<td></td>
</tr>
</tbody>
</table>

Choose the letter for the best answer.

7. Adam and his two brothers went to the zoo. Each ticket to enter the zoo costs $7. Adam bought two bags of peanuts for $4 each, and one of his brothers bought a lion poster for $12. Which expression shows how much money they spent at the zoo in all?
   - A $7 + 4 + 12$
   - B $7 \cdot 3 + 4 + 12$
   - C $7 \cdot 3 + 4 \cdot 2 + 12$
   - D $(7 \cdot 3) + (4 \cdot 12)$

8. An elephant eats about 500 pounds of grass and leaves every day. There are 2 African elephants and 3 Asian elephants living in the City Zoo. How many pounds of grass and leaves do the zookeepers need to order each week to feed all the elephants?
   - F 2,500 pounds
   - G 17,500 pounds
   - H 3,000 pounds
   - J 21,000 pounds

9. The average giraffe is 18 feet tall. Which of these expressions shows the height of a giraffe?
   - A $4^2 - 2$
   - B $3 \cdot 12 \div 4 + 2$
   - C $3^3 \div 9 \cdot 6$
   - D $20 \div 5 + 5 - 6$

10. Some kangaroos can cover 30 feet in a single jump! If a kangaroo could jump like that 150 times in a row, how much farther would it need to go to cover a mile? (1 mile = 5,280 feet)
    - F 780 feet
    - H 176 feet
    - G 26 feet
    - J 5,100 feet
Choose the letter for the best answer.

7. Adam and his two brothers went to the zoo. Each ticket to enter the zoo costs $7. Adam bought two bags of peanuts for $4 each, and one of his brothers bought a lion poster for $12. Which expression shows how much money they spent at the zoo in all?

A 7 + 4 + 12  
B 7 + 3 + 4 + 12  
C 7 + 3 + 4 + 2 + 12  
D (7 + 3) + (4 + 12)

Possible answer: Use the Associative Property of Multiplication or Addition.

8. An elephant eats about 500 pounds of grass and leaves every day. There are 2 African elephants and 3 Asian elephants living in the City Zoo. How many pounds of grass and leaves do the zookeepers need to order each week to feed all the elephants?

F 2,500 pounds  
G 17,500 pounds  
H 3,000 pounds  
J 21,000 pounds

Possible answer: Numbers are not grouped in ways that make them calculations easier.

9. The average giraffe is 18 feet tall. Which of these expressions shows the height of a giraffe?

A \( \frac{4}{2} \)  
B \( 3 \times 12 + 4 \times 2 \)  
C \( 3^2 + 0 \times 6 \)  
D 20 \( \times 5 + 5 - 6 \)

Possible answer: Use the Associative Property of Multiplication or Addition.

10. Some kangaroos can cover 30 feet in a single jump! If a kangaroo could jump like that 150 times in a row, how much farther would it need to go to cover a mile? (1 mile = 5,280 feet)

F 780 feet  
G 26 feet  
H 176 feet  
J 5,100 feet

Possible answer: Numbers are grouped in a way that makes it easier to evaluate.