4.OA.A.3 Evaluating Expressions and Order of Operations

4.OA.A.3: Solve multistep word problems posed with whole numbers using the four operations.

1. Find the value of each expression.

   a. $2h \div 4 - 3 \times 2$ if $h = 16$
   b. $15 + (2k - 5) \div 3$ if $k = 10$
   c. $(5 + 5d) \div 8 + 2 \times 14 \div d$ if $d = 7$
   d. $3 \times (9 - 21 \div 3) - s \div 6$ if $s = 12$

   Solution:
   a. _____
   b. _____
   c. _____
   d. _____

2. Find the value of each expression.

   a. $70 + (36 \div 6) - 14$
   b. $3 + 2 \div (8 - 6) + 19$
   c. $40 \div (4 + 3 \times 2) + 72 \div 8$
   d. $6 \times (21 \div 3) - 30$

   Solution:
   a. _____
   b. _____
   c. _____
   d. _____

3. Vince bought 2 sodas for $5 each. His friend, Mar, bought their meals for $18. They divided the cost of the sodas and meals. How much did each of them pay?

   Solution:

4. Write a word problem that matches the expression $(50 - 10) \div 5$.

   Solution:

5. What is the value of the expression $50 - (5a + 16)$ if $a = 3$?
   A. 51   C. 81
   B. 29   D. 19

   Solution:

6. Charlie saves $4 every day for 8 days. He spent $11 from his savings. Which is the correct expression for the problem?
   A. $4 \times 8 + 11$ C. $11 - 4 \times 8$
   B. $8 \times 4 - 11$ D. $8 \times 4 \times 11$

   Solution:

7. Which expression has a value of 9?
   A. $6 \div 2 \times 3$ C. $6 \times 3 \div 3$
   B. $6 \times 2 \times 3$ D. None of the above

   Solution:

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Answer Key

1. Find the value of each expression.

   a. $2h \div 4 - 3 \times 2$ if $h = 16$
   b. $15 + (2k - 5) \div 3$ if $k = 10$
   c. $(5 + 5d) \div 8 + 2 \times 14 \div d$ if $d = 7$
   d. $3 \times (9 - 21 \div 3) - s \div 6$ if $s = 12$

   Solution:
   a. $2(16) \div 4 - 6 = 32 \div 4 - 6 = 2$
   b. $15 + (20 - 5) \div 3 = 15 + 5 = 20$
   c. $40 \div 8 + 2 \times 2 = 5 + 4 = 9$
   d. $3 \times 2 - 2 = 6 - 2 = 4$

2. Find the value of each expression.

   a. $30 + (36 \div 6) - 14$
   b. $3 + 2 \div (8 - 6) + 19$
   c. $40 \div (4 + 3 \times 2) + 72 \div 8$
   d. $6 \times (21 \div 3) - 30$

   Solution:
   a. $30 + 6 - 14 = 22$
   b. $3 + 2 \div 2 + 19 = 3 + 1 + 19 = 23$
   c. $40 \div 10 + 9 = 4 + 9 = 13$
   d. $6 \times 7 - 30 = 42 - 30 = 12$

3. Vince bought 2 sodas for $5 each. His friend, Mar, bought their meals for $18. They divided the cost of the sodas and meals. How much did each of them pay?

   Solution:
   $(2 \times 5 + 18) \div 2 = 28 \div 2 = 14$
   Answer: $14 each

4. Write a word problem that matches the expression $(50 - 10) \div 5$.

   Solution: (Answers may vary.)
   10 of Byron's stamps are arranged in a row. The rest of his stamps are arranged in groups of five. If he has a total of 50 stamps, how many rows of five stamps are there?

5. What is the value of the expression $50 - (5a + 16)$ if $a = 3$?
   A. 51   C. 81
   B. 29   D. 19

   Solution:
   D. 19

6. Charlie saves $4 every day for 8 days. He spent $11 from his savings. Which is the correct expression for the problem?
   A. $4 \times 8 + 11$ C. $11 - 4 \times 8$
   B. $8 \times 4 - 11$ D. $8 \times 4 \times 11$

   Solution:
   B. $8 \times 4 - 11$

7. Which expression has a value of 9?
   A. $6 \div 2 \times 3$ C. $6 \times 3 \div 3$
   B. $6 \times 2 \times 3$ D. None of the above

   Solution:
   A. $6 \div 2 \times 3$