

Grade 5 - Numerical Expressions and Order of Operations - Test Answer Key

Common Core 5.OA.A.1, 5.OA.A.2 · maths-pdf.fr/en/

Use this answer key to grade the order of operations test. Each solution shows the steps and a scoring guide. Award partial credit as described. The total is 20 points. A score of 16 or more shows strong understanding of grouping symbols and the order of operations.

Grade 5 · Common Core State Standards: **5.OA.A.1, 5.OA.A.2**

Question 1 - Evaluate two expressions [2 pts]

(a) $6 \times 3 = 18$, then $14 + 18 = 32$. **32**

(b) $14 + 6 = 20$, then $20 \times 3 = 60$. **60**

Scoring: 1 point for each correct value.

Question 2 - Left to right and brackets [2 pts]

(a) $54 \div 9 = 6$, then $6 \times 2 = 12$. **12**

(b) $10 - 7 = 3$, $4 + 3 = 7$, then $5 \times 7 = 35$. **35**

Scoring: 1 point for each correct value.

Question 3 - Braces [2 pts]

$2 + 2 = 4$; $3 \times 4 = 12$; $20 - 12 = 8$; $8 \div 2 = 4$.

Answer: **4**

Scoring: 1 point for correct grouping order (inside out), 1 point for the correct value.

Question 4 - Write the expression [2 pts]

(a) $(30 - 8) \times 2$

(b) $(12+9)\div 7$

Scoring: 1 point for each expression. Parentheses are required. Do not give credit for answers like $30-8\times 2$.

Question 5 - Greater or less [2 pts]

The first expression is 5 groups of $87+142$, so it is **5 times as large**. It is greater.

Scoring: 1 point for "greater", 1 point for a correct explanation (5 times as large).

Question 6 - Insert parentheses [2 pts]

(a) $(3+4)\times 5 = 7\times 5 = 35$. $(3+4)\times 5 = 35$

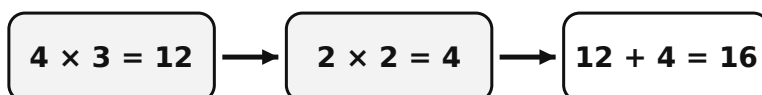
(b) $24\div (2+4) = 24\div 6 = 4$. $24\div (2+4) = 4$

Scoring: 1 point for each correct placement.

Question 7 - Noah at the store [3 pts]

(a) $4\times 3+2\times 2$

(b) $4\times 3 = 12$ and $2\times 2 = 4$, so $12+4 = 16$. Noah pays \$16.



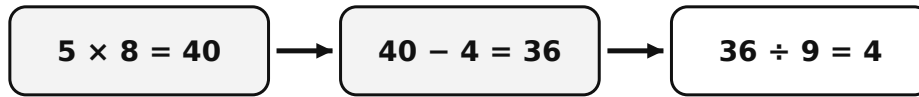
Steps for Noah.

Scoring: (a) 1 point. (b) 1 point for both products, 1 point for the correct total with a dollar sign.

Question 8 - Little League snacks [3 pts]

(a) $(5\times 8-4)\div 9$

(b) $5\times 8 = 40$; $40-4 = 36$; $36\div 9 = 4$. Each player gets **4 oranges**.



Steps for the oranges.

Scoring: (a) 1 point; parentheses around the first part are required. (b) 1 point for 36, 1 point for 4.

Question 9 - Mei's mistake [2 pts]

After the parentheses, Mei subtracted $25-3$ before multiplying. Multiplication must come before subtraction.

Correct: $3 \times 6 = 18$, then $25-18=7$. The correct value is **7**.

$$25 - 3 \times (4 + 2)$$

$$= 25 - 3 \times 6$$

$$= 25 - 18$$

—

Correct work.

Scoring: 1 point for naming the mistake, 1 point for the correct value 7.

Total
20 points