

Choose Yes or No to indicate which of the following expressions are equivalent to $(3 + 7) \times 4$.

- | | | |
|-----------------------|---------------------------|--------------------------|
| A. $(7 + 3) \times 4$ | <input type="radio"/> Yes | <input type="radio"/> No |
| B. $3 + 7 \times 4$ | <input type="radio"/> Yes | <input type="radio"/> No |
| C. $3 + (7 \times 4)$ | <input type="radio"/> Yes | <input type="radio"/> No |
| D. $7 + 3 \times 4$ | <input type="radio"/> Yes | <input type="radio"/> No |
| E. $4 \times (7 + 3)$ | <input type="radio"/> Yes | <input type="radio"/> No |

Scoring:

2 points: Selected A and E only.

1 point: Selected either A or E only.

Selected A, E and only one other wrong answer.

Selected either A or E and only one other wrong answer.

0 points: Any other combination.

Key and Distractor Analysis:

A. Key. A commutative property of addition change.

B. Student probably added before multiplying.

C. Student probably added before multiplying despite parentheses.

D. Student probably added before multiplying.

E. Key. A commutative property of addition and multiplication change.

Operations and Algebraic Thinking**5.OA**

Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.