

Order of Operations

1. Perform operations in grouping symbols.1
2. Evaluate numbers with exponents.
3. Multiply and divide from left to right.1
4. Add and subtract from left to right.

Evaluate $3 + 4 \times 2$.

Evaluate the expression using the order of operations. There are no grouping symbols or exponents.

Perform any multiplication or division from left to right. So, multiply 4 and 2.

$$3 + 4 \times 2 = 3 + 8$$

Perform any addition or subtraction from left to right. So, add 3 and 8.

$$3 + 8 = 11$$

► So, $3 + 4 \times 2 = 11$.

Evaluate $(4 + 6) \div 2 \times 2^3$.

Evaluate the expression using the order of operations. Perform operations in grouping symbols first. So, add 4 and 6.

$$(4 + 6) \div 2 \times 2^3 = 10 \div 2 \times 2^3$$

Evaluate numbers with exponents. So, evaluate 2^3 .

$$10 \div 2 \times 2^3 = 10 \div 2 \times 8$$

Perform any multiplication or division from left to right. So, divide 10 by 2 and then multiply the result by 8.

$$10 \div 2 \times 8 = 5 \times 8 = 40$$

► So, $(4 + 6) \div 2 \times 2^3 = 40$.

Evaluate $3 \times \frac{8 + 12}{5}$.

Rewrite the fraction as division.

$$3 \times \frac{8 + 12}{5} = 3 \times (8 + 12) \div 5$$

Perform the operation in parentheses. So, add 8 and 12.

$$= 3 \times 20 \div 5$$

Multiply 3 by 20.

$$= 60 \div 5$$

Divide 60 by 5.

$$= 12$$

► So, $3 \times \frac{8 + 12}{5} = 12$.

