

Key Concept and Vocabulary

“Please Excuse My Dear Aunt Sally”

- 1st **P**arentheses
- 2nd **E**xponents
- 3rd **M**ultiplication and **D**ivision (from left to right)
- 4th **A**ddition and **S**ubtraction (from left to right)

Simplify $4^2 \div 2 + 3(9 - 5)$.

$$\begin{aligned} 4^2 \div 2 + 3(9 - 5) &= 4^2 \div 2 + 3 \cdot 4 \\ &= 16 \div 2 + 3 \cdot 4 \\ &= 8 + 12 \\ &= 20 \end{aligned}$$



Skill Examples

- $18 \div 2 - 4 = 9 - 4 = 5$
- $12 \cdot (6 - 2) = 12 \cdot 4 = 48$
- $14 \cdot 3 - 19 = 42 - 19 = 23$
- $20 \div 10 + 21 \cdot 5 = 2 + 105 = 107$
- $(2 + 3)^2 - 5 = 25 - 5 = 20$

Application Example

- At a museum, 4 adults pay \$5 each and 6 children pay \$3 each. What is the total cost of the tickets?

$$\begin{aligned} 4 \cdot 5 + 6 \cdot 3 &= 20 + 18 \\ &= 38 \end{aligned}$$

••• The total cost is \$38.



PRACTICE MAKES PURR-FECT™

Check your answers at BigIdeasMath.com.

Simplify.

- $3^2 + 5(4 - 2) = \underline{19}$
- $3 + 4 \div 2 = \underline{5}$
- $10 \div 5 \cdot 3 = \underline{6}$
- $4(3^3 - 8) \div 2 = \underline{38}$
- $3 \cdot 6 - 4 \div 2 = \underline{16}$
- $12 + 7 \cdot 3 - 24 = \underline{9}$

Insert parentheses to make the statement true.

- $(5^2 - 15) \div 5 = 2$
- $12 \cdot (2^3 + 4) = 144$
- $(91 - 21) \div 7 = 10$

Write an expression for the total area of the two rectangles. Evaluate your expression.

16. +
 $3 \cdot 4 + 5^2; 37$

17. +
 $3^2 + 4 \cdot 6; 33$

- ADMISSION** At a baseball game, 6 adults pay \$20 each and 4 children pay \$10 each. What is the total cost of the tickets? \$160

- INSERTING PARENTHESES** Insert parentheses in the expression $4 + 2^3 - 5 \cdot 2$ in two ways: (a) so that the value is 10 and (b) so that the value is 14.

(a) $4 + (2^3 - 5) \cdot 2$ (b) $(4 + 2^3 - 5) \cdot 2$