

## Order of Operations with Integers

Name Solutions

Use the order of operations to complete each problem. Perform one operation at a time and write the answer in its place. Show each step vertically with an equal sign on each line. There are two examples to show you the proper form.

$$\begin{aligned} \text{Example A: } 18 + 4[2 + 3 \cdot (-2)] &= 18 + 4[2 + (-6)] \\ &= 18 + 4[-4] \\ &= 18 + (-16) \\ &= 2 \end{aligned}$$

$$\begin{aligned} \text{Example B: } \frac{-4 - 3 \cdot 6 + 2}{9 - 2^2} &= \frac{-4 - 18 + 2}{9 - 4} \\ &= \frac{-22 + 2}{5} \\ &= \frac{-20}{5} \\ &= -4 \end{aligned}$$

$$\begin{aligned} 1. \quad 3 + (-4) \cdot 5 \\ &= 3 + (-20) \\ &= -17 \end{aligned}$$

$$\begin{aligned} 2. \quad (-40) \div (-4) \cdot 2 \\ &= 10 \cdot 2 \\ &= 20 \end{aligned}$$

P  
E  
MP left to right  
AS

$$\begin{aligned} 3. \quad 15 - 2[5 - (-2)] \\ &= 15 - 2[7] \\ &= 15 - 14 \\ &= 1 \end{aligned}$$

$$\begin{aligned} 4. \quad \frac{9 \cdot 2 + 2|-5|}{(-2)^2} \\ &= \frac{18 + 2(5)}{4} \\ &= \frac{18 + 10}{4} \\ &= \frac{28}{4} \\ &= 7 \end{aligned}$$

$$5. 3[1-2(10-8)]$$

$$= 3[1-2(2)]$$

$$= 3[1-4]$$

$$= 3(-3)$$

$$= -9$$

$$6. \frac{22+20 \div (-5)}{(-4+7)^2}$$

$$= \frac{22+(-4)}{(3)^2}$$

$$= \frac{18}{9}$$

$$= 2$$

$$7. 4(-9)+8 \div (-2)-6 \cdot 5$$

$$= -36+(-4)-30$$

$$= -40-30$$

$$= -70$$

$$8. -6^2 - 27 \div 3^2 \cdot 2 - (-1)$$

$$= -36 - 27 \div 9 \cdot 2 + 1$$

$$= -36 - 3 \cdot 2 + 1$$

$$= -36 - 6 + 1$$

$$= -42 + 1$$

$$= -41$$

$$9. 5(-3)^2 - (-2)(-2)^3$$

$$= 5(9) - (-2)(-8)$$

$$= 45 - 16$$

$$= 29$$

$$\begin{array}{l} (-2)(-2)(-2) \\ = -8 \end{array}$$

$$\begin{array}{r} 45 \\ -16 \\ \hline 29 \end{array}$$

$$10. 5(2-4)^2 + 15 \div (9-6)$$

$$= 5(-2)^2 + 15 \div (3)$$

$$= 5(4) + 15 \div 3$$

$$= 20 + 5$$

$$= 25$$