

# Evaluating Expressions and Variables

Vocabulary Review: Write a definition and provide an example of each.

Term	Definition	Example
Numerical Expression	Expression with only numbers.	$9 + 5$
Variable	Symbol or letter that replaces a number	$2a$ ↑ variable
Variable Expression	Expression with at least one variable.	$n + 2$

New Term:

Term	Definition	Example
Evaluate	Solve by replacing variable with a value.	$n + 2$ , $n = 3$ $3 + 2 = \boxed{5}$

Examples: Evaluate each expression when  $x = 4$ . SHOW WORK!

a)  $10 - x$   
 $= 10 - 4$   
 $= 6$

b)  $\frac{x}{2} = \frac{4}{2} = 2$

Evaluate each expression when  $m = 3$  and  $n = 5$ . SHOW WORK!

a)  $m + n$   
 $= 3 + 5$   
 $= 8$

b)  $3m - 5$   
 $= 3(3) - 5$   
 $= 9 - 5$   
 $= 4$

**Order of Operations still matters!!!**

**Remember PEMDAS?**

1<sup>st</sup> parentheses ( )

2<sup>nd</sup> exponents  $n^2$

3<sup>rd</sup> mult. OR div. whichever first

4<sup>th</sup> add OR sub. whichever first

Use Order of Operations to solve the problems below.

1.  $3 + 6 \times 4 =$

$$3 + 24 = \boxed{27}$$

3.  $(56 - 5) \div 17 =$

$$51 \div 17 = \boxed{3}$$

2.  $2[8 + (5 - 3)] - 8 =$

$$2(8 + 2) - 8$$

$$20 - 8$$

$$\boxed{12}$$

4.  $(6 - 3)^2 + 7 \div 2 =$

$$9 + 3.5 = \boxed{12.5}$$

1.  $50 - 7b$ , for  $b = 5$

$$15$$

2.  $h \cdot (h + 2)^2$ , for  $h = 2$

$$32$$

3.  $\frac{z}{5} + 2$ , for  $z = 10$

$$4$$

4.  $\frac{x-y}{4}$ , for  $x = 52$  and  $y = 12$

$$10$$