

## Evaluating Expressions

Date: 10-11-12

Objective: Today we will evaluate algebraic expressions in order to apply given formulas and fill in function tables.

Notes:

When a question asks you to **evaluate** a variable expression, you replace or substitute the variable with a number and simplify.

**Example:** Evaluate  $4y - 15$  for  $y = 9$

Wherever you see a  $y$ , substitute a  $(9)$

$$\begin{aligned} &4(9) - 15 \\ &36 - 15 \\ &\textcircled{21} \end{aligned}$$

**Example:** Evaluate  $4(t - 3) + 1$  for  $t = 8$

$$\begin{aligned} &4(8 - 3) + 1 \\ &4(5) + 1 \\ &20 + 1 \\ &\textcircled{21} \end{aligned}$$

**Example:** Evaluate each expression for the given values.

1.  $6(g+h)$ , for  $g=8$  and  $h=7$

$$6(8+7)$$

$$6(15)$$

$$\textcircled{90}$$

2.  $\frac{r+s}{2}$  for  $r=13$  and  $s=11$

$$\frac{13+11}{2} = \frac{24}{2} = \textcircled{12}$$

We evaluate expressions to solve real-world problems involving:

- **Function Tables:** evaluate one expression using many values

First Row Shows:

Variable	Expression
$x$	$3x + 5$

Full Table:

$x$	$3x + 5$
1	$3(1) + 5 = 8$
2	$3(2) + 5 = 11$
3	$3(3) + 5 = 14$
4	$3(4) + 5 = 17$

- **Given Formulas:** evaluate a formula using specific values

**Example:** The formula for distance is  $D = rt$  where  $D$  = distance,  $r$  = rate, and  $t$  = time. If you drive at a rate of 45 mph for 2 hours, how far did you drive?

$$D = r \cdot t \quad r = 45$$

$$D = 45 \cdot 2 \quad t = 2$$

$$D = 90 \text{ miles}$$

## Exit Ticket

① Evaluate  $3x + y + z$   
for  $x = 1, y = 2, z = 3$

② Evaluate  $xy$  for  $x = 0$   
 $y = 1$