Variables: symbols used to represent numbers

To evaluate an expression you replace each variable with a given value and simplify.

Evaluate each expression if $x = 3$, $y = -5$ and $z = -2$.

1. $x + z + -5 = \underline{-4}$

   $3 - 2 - 5$

   $1 - 5$

2. $|-20 + (-y) + (-x)| = \underline{18}$

   $|-20 + 5 - 3|$

   $|-15 - 3|$

   $|-18|$

3. $6x + 9y - 2 = \underline{-29}$

   $6(3) + 9(-5) - 2$

   $18 - 45 - 2$

   $-27 - 2$

   -29

4. $\frac{xyz}{z-y} = \underline{10}$

   $\frac{(3)(-5)(-2)}{-2-(-5)}$

   $\frac{30}{3} = 10$

Like Terms: terms that contain the same variables, with corresponding variables having the same powers.

EXAMPLES:

LIKE TERMS - $x + 3x$, $2 + 4$, $x^2 + 3x^2$

NOT LIKE TERMS - $x + 2$, $x^2 + x$

COMBINE LIKE TERMS

5. $7x - 5 - 3y - 10x + 8y - 8 = \underline{-3x+5y-13}$

   $-3x + 5y - 13$

6. $-2x - 6 + 9y - 3x - 9y = \underline{-5x-6}$

   $-5x - 6$

7. $4xy - 4xz + 7xy - 11yz = \underline{11xy-4xz-11yz}$

   $11xy - 4xz - 11yz$

SIMPLIFY AND THEN EVALUATE for $x = 2$, $y = -4$, $z = 5$.

8. $7x - y - z - x - y + z = \underline{6x-2y}$

   $6x - 2y$

   $6(2) - 2(-4)$

   $12 + 8$

   20

9. $5x - 2xy + 4y - 3y + 2x - z + 3xy = \underline{7x+xy+y-z}$

   $7x + xy + y - z$

   $7(2) + (2)(-4) - 4 - 5$

   $14 - 8 - 4 - 5$

   -3