

CYU 1.4 Variable Expressions & Equations DAY TWO

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Evaluating Expressions	1	2abde	2cf
Solution/Answer	3		

1. Evaluate the following expressions when $x = 1$, $y = 3$, and $z = 5$.

a. $3y = 3(3) = \boxed{9}$

b. $\frac{z}{5x} = \frac{5}{5(1)} = \frac{5}{5} = \boxed{1}$

c. $3x - 2 = 3(1) - 2 = 3 - 2 = \boxed{1}$

d. $|2x + 3y| = |2(1) + 3(3)| = |2 + 9| = |11| = \boxed{11}$

e. $xy + z = (1)(3) + (5) = 3 + 5 = \boxed{8}$

f. $5y^2 = 5(3)^2 = 5(9) = \boxed{45}$

2. Evaluate each expression if $x = 12$, $y = 8$, and $z = 4$.

a. $\frac{x}{z} + 3y$
 $= \frac{12}{4} + 3(8)$
 $= 3 + 24$
 $= \boxed{27}$

b. $x^2 - 3y + x$
 $= (12)^2 - 3(8) + (12)$
 $= 144 - 24 + 12$
 $= \boxed{132}$

c. $\frac{x^2+z}{y^2+2z}$
 $= \frac{(12)^2 + 4}{(8)^2 + 2(4)}$
 $= \frac{144 + 4}{64 + 8} = \frac{148}{72}$
 $= \boxed{\frac{37}{18}}$

Evaluate each expression if $x = 12$, $y = 8$, and $z = 4$.

d. $\frac{y}{z} + 8x$

$$= \frac{8}{4} + 8(12)$$

$$= 2 + 96$$

$$= \boxed{98}$$

e. $y^2 - 3x + y$

$$= (8)^2 - 3(12) + 8$$

$$= 64 - 36 + 8$$

$$= \boxed{36}$$

f. $\frac{y^2+x}{x^2+3y}$

$$= \frac{(8)^2 + 12}{(12)^2 + 3(8)} = \frac{64 + 12}{144 + 24}$$

$$= \boxed{\frac{76}{168}}$$

3. Decide whether the given number is a solution of the given equation.

a. Is 5 a solution of $3x + 30 = 9x$?

yes

$$3(5) + 30 = 9(5)$$

$$15 + 30 = 45$$

$$45 = 45 \checkmark$$

b. Is 6 a solution of $2x + 7 = 3x$?

no

$$2(6) + 7 = 3(6)$$

$$12 + 7 = 18$$

$$19 = 18 \times$$

c. Is 0 a solution of $2x + 6 = 5x - 1$?

no

$$2(0) + 6 = 5(0) - 1$$

$$0 + 6 = 0 - 1$$

$$6 = -1 \times$$

d. Is 2 a solution of $4x + 2 = x + 8$?

yes

$$4(2) + 2 = 2 + 8$$

$$8 + 2 = 10$$

$$10 = 10 \checkmark$$

e. Is 6 a solution of $3x - 10 = 8$?

yes

$$3(6) - 10 = 8$$

$$18 - 10 = 8$$

$$8 = 8 \checkmark$$

f. Is 2 a solution of $x + 6 = x + 6$?

yes

$$2 + 6 = 2 + 6$$

$$8 = 8 \checkmark$$

g. Is 0 a solution of $x = 5x + 15$?

no

$$0 = 5(0) + 15$$

$$0 = 0 + 15 \times$$

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

