

1A

Substitution



Steps to Evaluate Algebraic Expressions

Evaluate $9x + 6y$ when $x = 2$ and $y = 4$

1. Substitute in the value(s) for the given variable(s). Evaluate $9x + 6y$

2. Evaluate the expression using the order of operations. Evaluate $9(2) + 6(4)$
 $18 + 24$
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Evaluating Expressions

Evaluate the following expressions when $x=3$, $y=7$, and $c=2$

$$3x - y$$

$$3(3) - 7$$

$$9 - 7$$

$$\textcircled{2}$$

$$c^3 + 4y$$

$$2^3 + 4(7)$$

$$8 + 4(7)$$

$$8 + 28$$

$$\textcircled{36}$$

$$x^2 + 5y$$

$$3^2 + 5(7)$$

$$9 + 5(7)$$

$$9 + 35$$

$$\textcircled{44}$$

$$c(3y - x)$$

$$2(3(7) - 3)$$

$$2(21 - 3)$$

$$2(18)$$

$$\textcircled{36}$$

Notes

The expression $3.3m$ gives the number of feet in m meters. How many feet are equivalent to $m = 40$ meters?

The expression $6s^2$ gives the surface area of a cube, where s is the length of one side of the cube. Find the surface area of a cube with a side length of $s = 5$ ft.

Practice

The expression $2.54j$ gives the number of centimeters in one inch. How many centimeters are equivalent to $j = 12$ inches?

$$2.54j$$

$$2.54(12)$$

$$\boxed{30.48 \text{ centimeters}}$$

Lucinda ordered some boxes of greeting cards online. The cost of the cards is $\$6.50n + \3 where n is the number of boxes ordered and $\$3$ is the shipping and handling charge. How much will Lucinda pay if she orders 8 boxes of cards?

$$\$6.50n + \$3$$

$$n = \# \text{ of boxes}$$

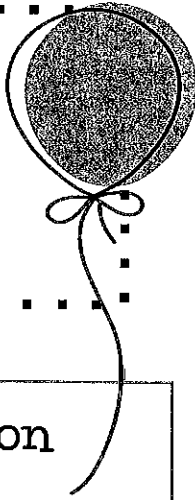
$$6.50(8) + 3$$

$$\boxed{\$55}$$

Teacher Signature: _____

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Party Planning Practice



Word Problem	Operation(s)	Expression
John <u>split</u> 50 guests between <u>y</u> rooms in his house for his party.	\div	$50 \div m$
Laura invited 60 guests to her party this year. Next year she is going to invite <u>p</u> less than that.	$-$	$60 - p$
Cupcakes cost <u>x</u> dollars per cupcake. Jordan is buying 80 of them for her party.	\times (multiplication)	$80 \times$
Kayla earns <u>x</u> dollars per hour planning parties. On Friday, she worked 6 hours.	\times (multiplication)	$6 \times$
To buy a cake it costs \$9 and \$2 per birthday candle.	$+$, \times	$9 + 2y$

Check your answers with the answer key and then get a signature from a friend: _____

2E

Party Planner CHALLENGE

Joanna has 45 slices of pizza to split between x guests. Evaluate the expression where $x=15$.

- Determine the Expression: $45 \div x$
- Substitute the known value: $45 \div 15$
- Solve: \rightarrow 3 slices per guest

For every x number of party Don plans, he earns \$50.

- Determine the Expression: $50x$ or $50 \cdot x$

Don planned 4 parties. How much did Don make? (Show work)

- Substitute the known value: $50(4)$
- Solve: \rightarrow \$200

Anne needs to rent a room to have her graduation party in. The room costs \$100 to rent and food costs \$5 per x amount of people.

(HINT: There are 2 operations)

Expression: $100 + 5x$

If Anne invites 20 people, how much money will the room and food cost? (Show your work)

$$100 + 5(20)$$

$$100 + 100$$

$$\boxed{\$200}$$

Check the Answer Key then get a Teacher Signature: _____

2F

Possible/Not Possible

Solutions



NOTES:

1. I bought balloons for my party.

Circle the following possible numbers of balloons I may have bought:

4

-7

0.5

30

-1

1/9

2. Tiara the DJ charges \$20 flat fee and \$2 per song request.

Expression: $20 + 2x$

★ Name 3 values of x that are possible: 4, 6, 10

★ Name 3 values of x that are not possible: $\frac{1}{2}$, -2, 0.75

YOUR TURN:

You are buying n number of packages of confetti to decorate for your party. The packages cost \$2 each.

Expression: $2n$

3 POSSIBLE VALUES OF n : 6, 9, 20

3 VALUES OF n THAT ARE NOT POSSIBLE: $\frac{3}{4}$, -10, 0.5

In Seesaw, explain your possible and not possible values for n .