Evaluating

algebraic expression $-3(x+4)$ evaluate $x = -10$

expression $-3(-10+4)$ order of operations

$-3(-6)$

$-3 \cdot -6$

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Evaluating Expressions

1. Rewrite the expression by replacing the variables with the given values. ← substitute
2. Follow the order of operations to compute the value of the expression.

True or False Equations

$5x + 2y \stackrel{?}{=} 10 \quad x = 2 \quad y = 0$

$5(2) + 2(0) \stackrel{?}{=} 10$

$10 + 2(0) \stackrel{?}{=} 10$

$10 + 0 \stackrel{?}{=} 10$

$10 = 10$ True

this equation is true when $x = 2$ & $y = 0$

$y \stackrel{?}{=} 8x+9 \quad x=5, \; y=40$

$40 \stackrel{?}{=} 8(5)+9$

$40 \stackrel{?}{=} 40+9$

$40 \neq 49$ False - they are not equal to

not equal to

28. The table at right shows admission prices for Centerville's movie theater.

Centerville Movie Admission

Adult (18-61 years old)	$8.00
Senior Citizen (62 years and above)	$6.50
Children (5-17 years old)	$4.00
Children (4 years and under)	$2.50

a. The Johnson family consists of 2 adults, 1 senior citizen and three children (ages 3, 7 and 13). What will be the total cost for admission for the Johnson family to see a movie at the theater?

b. Jacob is having a birthday bash for his thirteenth birthday. His mom agreed to take Jacob and 9 of his friends to the theater for the party. All of Jacob's friends are also twelve or thirteen. How much will it cost for all the kids, plus Jacob's mom, to go to a movie?

c. The Smiths spent $26.50 on movie admissions for their family. Give two possible descriptions of the ages of people in the Smith family. Show all work necessary to justify your answer.

a) expression $2(8)+6.50+2.50+2(4)$

$16+6.50+2.50+2(4)$

$16+6.50+2.50+8$

$22.50+2.50+8$

$25+8$

$\$33$

b) $10(4)+8$

$40+8$

$\$48$

c)

27. Tom went shopping at the mall. He found one type of shirt he liked for $12. He also discovered a pair of shorts for $16. Both the shirt and the shorts came in many different colors.

a. Let x represent the number of shirts and y represent the number of shorts Tom purchased. Write an algebraic expression that represents the total cost for x shirts and y shorts. w/ variables

b. Tom decided to buy three shirts and five pairs of shorts. What was the total cost for his purchase?

c. Sam, a friend of Tom's, decided to buy the same kind of shorts and shirts. The total cost for his purchase was $80. How many shirts and pairs of shorts might Sam have purchased? Explain how you know your answer is correct.

a) $12x + 16y$

~~$x(12) + y(16)$~~

b) $12(3) + 16(5)$

$36 + 16(5)$

$36 + 80$

$116

c) 4 shirts + 2 shorts

5 shorts + no shirts