

Name _____

Date _____

Aim: How can we subtracting algebraic expressions?

Do now

1) Subtract 10 from 6

$$\begin{aligned} 6 - 10 \\ 6 + (-10) \\ \boxed{-4} \end{aligned}$$

2) Write a mathematical expression: 5 times a number subtracted from 16

$$\boxed{16 - 5x}$$

3) Write a mathematical expression: A number increased by 5, subtracted from the product of 6 and the number

$$6x - (x + 5)$$

4) What is $(3x - 5)$ subtracted from $(7x + 8)$?

$$\begin{aligned} 1(7x + 8) - 1(3x - 5) \\ 7x + 8 - 3x + 5 \\ \boxed{4x + 13} \end{aligned}$$

Steps for subtracting expressions:

1.) Put () around 2nd expression

2.) Distribute negative (-1) by changing all signs of 2nd expression

3.) Combine like terms

5) What is the difference of $(-2x - 6)$ and $(4x + 2)$?

$$\begin{aligned} 1(-2x - 6) - 1(4x + 2) \\ -2x - 6 - 4x - 2 \\ \boxed{-6x - 8} \end{aligned}$$

6) What is the result when $0.81x - 0.45$ is subtracted from $3.28x + 1.4$?

$$\begin{aligned} 1(3.28x + 1.4) - 1(0.81x - 0.45) \\ 3.28x + 1.4 - 0.81x + 0.45 \\ \boxed{3.18x + 1.85} \end{aligned}$$

7) What is $(2x^2 - 6x + 9)$ subtracted from $(4x^2 + 4)$?

$$1(4x^2 + 4) - 1(2x^2 - 6x + 9)$$

$$4x^2 + 4 - 2x^2 + 6x - 9$$

$$\boxed{2x^2 + 6x - 5}$$

APPLICATIONS

8) Your class project involves recycling aluminum cans. So far, your class has collected $(13x + 50)$ aluminum cans. The class goal is collect $(80x + 120)$ aluminum cans. How many more cans does your class need to collect?

$$(80x + 120) - (13x + 50)$$

$$80x + 120 - 13x - 50$$

$$\boxed{67x + 70} \text{ cans}$$

9) Eastside Bowling charges \$2.25 for shoes and \$3.00 per game, g . Westside Bowling charges \$1.75 for shoes and \$2.50 per game, g . Write an algebraic expression in simplest form that represents how much more Eastside Bowling charges than Westside Bowling.

$$1(2.25 + 3g) - 1(1.75 + 2.50g)$$

$$2.25 + 3g - 1.75 - 2.50g$$

$$\boxed{0.50g + 0.50} \text{ dollars}$$

10) A concession stand sells hamburgers. The # of hamburgers is represented by the expression $15x + 35$

a) The price of a hamburger is \$5. Write an expression that represents the revenue for hamburgers.

$$5(15x + 35)$$

$$75x + 175 \text{ dollars}$$

b) The # of drinks is represented by the expression $63x + 90$. The price of a drink is \$3. Write an expression that represents the revenue for drinks

$$3(63x + 90)$$

$$189x + 270 \text{ dollars}$$

c) Write and simplify an expression that represents how much more money was made from drinks than hamburgers. $1(189x + 270) - 1(75x + 175)$
 $189x + 270 - 75x - 175$
 $114x + 95$ dollars



When subtracting expressions we must put parentheses around the second expression, distribute the negative and then combine like terms