

13.2

Adding and Subtracting Linear Expressions

Do Now Simplify the expression.

1) $4x + 2 - 3x$

2) $8y - 3 - 10y - 6$

3) $-2x + 3 - 8x$

4) $3y - 4.6 + 1.3 + 2.1y$

Review: The Distributive Property

Use the distributive property for the following:

1) $5(x + 3)$

2) $7(x - 8)$

3) $-6(x + 2)$

Vocabulary

A linear expression is an algebraic expression in which the _____ of the variable is ____.

Linear Expressions	$-4x$	$3x + 5$	$5 - 0.25x$
Nonlinear Expressions	x^2	$-7x^3 + x$	$x^5 + 1$

Adding Linear Expressions

Find the sum of the following:

Horizontal Method

$$a) (x - 2) + (3x + 8)$$

Vertical Method

$$b) (x - 2) + (3x + 8)$$

Adding Linear Expressions

Use any method to find the sum of the following:

$$c) (-4y + 3) + (11y - 5)$$

Practice

1) $(x + 3) + (2x - 1)$

2) $(-8z + 4) + (8z - 7)$

3) $(p - 3) + (p - 7)$

4) $(3n - 1) + (4 - n)$

...with the Distributive Property

a) $2(-7z + 3) + (5z - 2)$

b) $(4 - n) + 2(-5n + 3)$

c) $3(w - 4) + (w + 12)$

Practice

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

6) $(-6y - 2) + 5(3 + 4y)$

Subtracting Linear Expressions

Find the difference of the following:

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

b) $(7y + 5) - 2(4y - 3)$

Practice

$$7) (m - 3) - (-m + 12)$$

$$8) (2n - 4) - (4n - 3)$$

$$9) (c + 2) - 5(2c + 4)$$

Practice

$$10) -3(2y - 9) - (5y + 4)$$

$$11) -2(c + 2.5) - 5(1.2c + 4)$$

Application

The original price of a cowboy hat is d dollars. You use a coupon and buy the hat for $(d - 2)$ dollars. You decorate the hat and sell it for $(2d - 4)$ dollars. Write an expression that represents your earnings from buying and selling the hat. Interpret the expression.

