13.2

Adding and Subtracting Linear Expressions

Vocabulary

A linear expression is an algebraic expression in which the _____ _____ of a 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 Distritubutive 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.