NAME _____ DATE _____ PERIOD _____

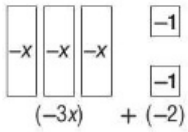
Lesson 7 - Subtract Linear Expressions

When subtracting expressions, subtract like terms. You can use models or the additive inverse.

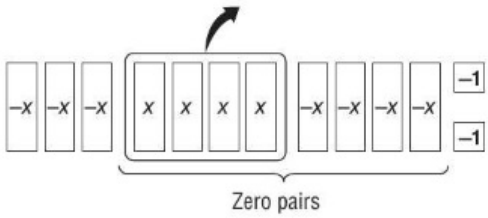
Example 1

Find $(-3x - 2) - (4x)$.

Step 1 Model the expression $-3x - 2$.



Step 2 Since there are no positive x-tiles to remove, add four zero pairs of x-tiles. Remove four positive x-tiles.



So, $(-3x - 2) - (4x) = -7x - 2$.

Example 2

Subtract $(4x + 6) - (-7x + 1)$.

The additive inverse of $-7x + 1$ is $7x - 1$.

$$\begin{array}{r} 4x + 6 \\ +\ 7x - 1 \\ \hline 11x + 5 \end{array}$$

Arrange like terms in columns.

Add.

So, $(4x + 6) - (-7x + 1) = 11x + 5$.

Exercises

Subtract. Use models if needed.

1. $(9x + 10) - (2x + 4)$

3. $(6x + 3) - (-x - 2)$

5. $(3x - 1) - (2x - 6)$

Lesson 7 Skills Practice

Subtract Linear Expressions

Subtract. Use models if needed.

1. $(5x + 7) - (x + 2)$

X	CONSTANTS
5X	7
-1X	-2
4X AND 5	

4x + 5

2. $(2x - 6) - (x - 7)$

(2x + -6) - (x + -7)

X	CONSTANTS
2X	-6
-1X	-(-7)
X AND 1	

X + 1

-6 - (-7)
-6 + 7 = 1

5. $(-x + 3) - (4x - 10)$

6. $(5x + 4) - (-8x - 2)$

9. $(-9x + 1) - (-7x + 8)$

10. $(-3x - 9) - (4x + 8)$

(-3x + -9) - (4x + 8)

X	CONSTANT
-3x	-9
+(-4x)	-8
-7x AND -17	

-3x - 9
-(4x + 8)

-7x + (-17) = -7x - 17

-3x - 4x = -3x + (-4x) = -7x

-9 - 8 = -9 + (-8) = -17

13. $(5x - 1) - (-3x + 7)$

14. $(-5x + 4) - (-9x - 2)$

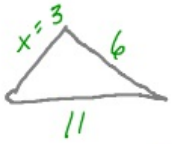
19. $(2x + 4) - (5x - 2)$

20. $(-12x - 6) - (-4x + 3)$

(-12x + -6) - (-4x + 3)

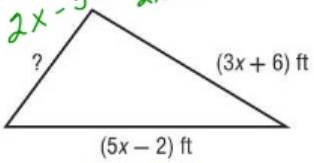
-12x - (-4x) = -12x + 4x = -8x AND
-6 - 3 = -6 + -3 = -9

-8x + (-9) OR -8x - 9



PERIMETER = 20
6 + 11 = 17 17 + 3 = 20
20 - 17 = 3

21. GEOMETRY The perimeter of the triangle shown is $(10x + 1)$ feet. Find the length of the missing side.



2x - 3 OR 2x + (-3)
(5x + -2)

X	CONSTANTS
5x	-2
3x	6
8x + 4	

(10x + 1) - (8x + 4)

X	CONSTANT
8x	4
2x	-3
10x + 1	

2x - 3

10x - 8x = 2x
1 - 4 = 1 + -4 = -3