

Subtracting Linear Expressions

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

x	CONSTANTS
5x	-3
+(-2x)	+(-6)
5+(-2)=3	-3+(-6)

$$3x + (-9)$$

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

x	CONSTANTS
5x	-3
-(-2x)	-(-6)
5-(-2)=7	-3-(-6)=-3+6=3

$$7x + 3$$

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

x	CONSTANTS
4x	+6
-(-7x)	-1
4-(-7)=11	6-1

$$11x + 5$$

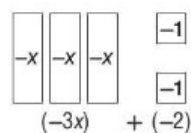
Lesson 5-7 Subtract Linear Expressions

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

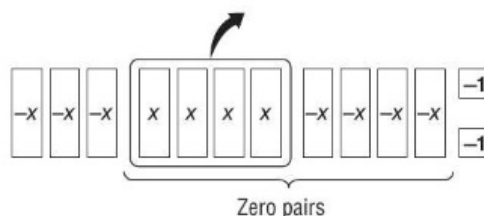
Example 1

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.



$$\text{So, } (-3x - 2) - (4x) = -7x - 2.$$

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.

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

THE OPPOSITE OF (-5) IS $+5$
NEGATIVE

Exercises

Subtract. Use models if needed.

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

x	CONSTANTS
9x	+10
-2x	-4
9-2=7 AND 10-4=6	

$7x + 6$

2. $(3x + 4) - (2x - 5)$

x	CONSTANTS
3x	+4
-2x	-(-5) = +5
3x-2x AND 4+5=9	

$x + 9$

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

x	CONSTANTS
6x	3
-(-1x) = +1x	-(-2) = +2
6+1=7 AND 3+2=5	

$7x + 5$

4. $(4x - 1) - (x + 3)$

x	CONSTANTS
4x	-1
-x	-3

Lesson 7 Skills Practice

Subtract Linear Expressions

Subtract. Use models if needed.

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

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

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

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

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

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

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

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

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

18. $(-6x + 1) - (-3x + 1)$

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

