Add Linear Expressions

$(8m + 13) + (6m + 14)$

m	CONSTANTS
$8m$	$+13$
$6m$	$+14$
$8m+6m$	$13+14$

$14m + 27$ FINAL ANSWER

$(-5r - 17) + (5r + 17)$

r	CONSTANTS
$-5r$	-17
$5r$	17
$-5r+5r$	$-17+17$

$0 + 0$

0 FINAL ANSWER

Add Linear Expressions

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

X	CONSTANTS
$3x$	$+5$
$2x$	$+3$
$3x+2x=5x$	$5+3=8$

$5x + 8$ FINAL ANSWER

$5x+8$ FOR $x=2$

$5(2)+8=18$

$5x+8 \neq 13x \quad x=2$

$13(2)=2$

NOT EQUAL

$5x+8$ FOR $x=0$

$5(0)+8=8$

$13x$ FOR $x=0$

$13(0)=0$

NOT THE SAME

$(x - 2) + (-2x + 4)$

X	CONSTANTS
$1x$	-2
$-2x$	$+4$
$1x + (-2x) = -1x$	$-2 + 4$

$-x + 2$ FINAL ANSWER

NAME _____ DATE _____ PERIOD _____

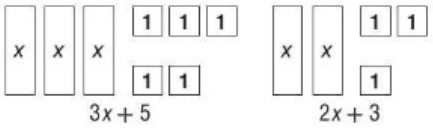
Lesson 5-6 Add Linear Expressions

You can use models to add linear expressions.

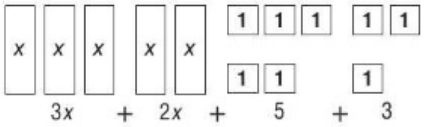
Example 1

Add $(3x + 5) + (2x + 3)$.

Step 1 Model each expression.



Step 2 Combine like tiles and write an expression for the combined tiles.

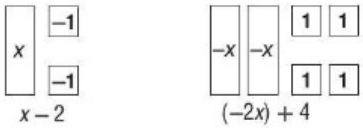


So, $(3x + 5) + (2x + 3) = 5x + 8$.

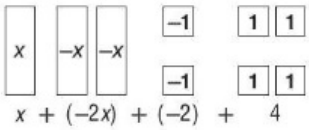
Example 2

Add $(x - 2) + (-2x + 4)$.

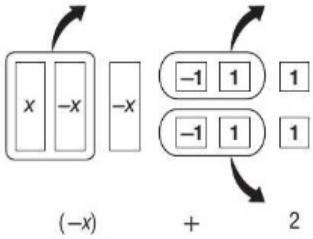
Step 1 Model each expression.



Step 2 Combine like tiles and write an expression for the combined tiles.



Step 3 Remove all zero pairs and write an expression for the remaining tiles.



So, $(x - 2) + (-2x + 4) = -x + 2$.

Exercises

Add. Use models if needed.

1. $(5x + 2) + (3x + 1)$

2. $(-8x + 1) + (-2x + 6)$

3. $(-7x + 4) + (x - 5)$

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

Lesson 5-6 Skills Practice - Add Linear Expressions

Add. Use models if needed.

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

2. $(-6x + 3) + (x - 7)$

3. $(-x + 12) + (-4x + 2)$

4. $(-5x + 3) + (-7x - 1)$

7. $(-7x + 1) + (4x - 5)$

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

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

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

13. $(2x - 1) + (-3x + 7)$

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

17. Find the sum of $(10x + 3)$ and $(-4x - 2)$.

18. Find the sum of $(x + 3)$ and $(-x - 4)$.

19. **GEOMETRY** Write and simplify an expression to represent the perimeter of the triangle shown. Then find the value of x if the perimeter is 45 feet.