Unit 7, Lesson 9

Working with Signed Numbers

Let's work with signed numbers.

9.1 Worked Example: Multiplying Rectangles

Solve $14 \cdot 8$ using a diagram.

Step 1:

	10	4
10		
-2		

Step 2:

	10	4
10	100	40
-2	-20	-8

Step 3:

$$100 + 40 - 20 - 8 = 112$$

9.2 Expanded Form

For each expression given in factored form, write two equivalent expressions in expanded form. If you get stuck, draw a diagram to represent the product. Some blank diagrams are provided—draw additional diagrams as needed.

1. $(30 + 3)(30 - 2)$

2. $(20 - 1)(20 - 1)$

3. $(100 + 5)(100 - m)$

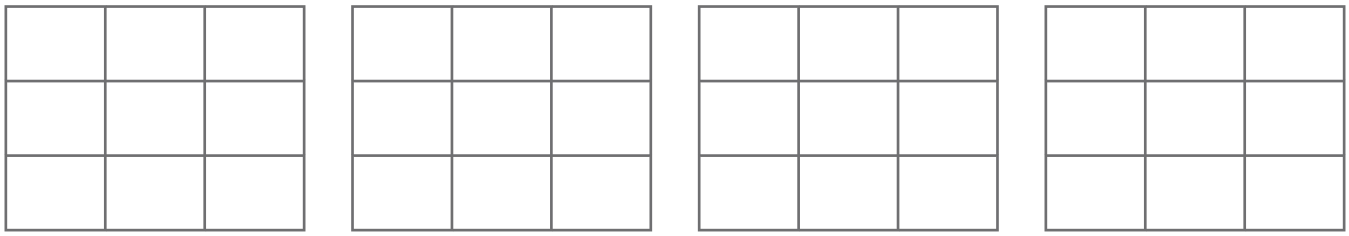
4. $(40 - a)(40 + b)$

5. $y(11 - y)$

6. $-7(3a - 1)$

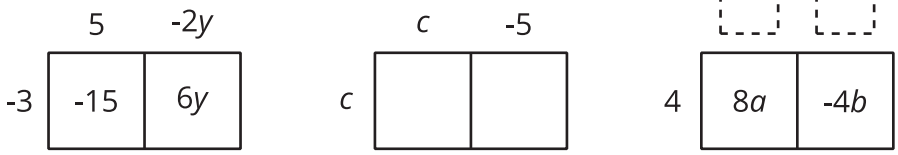
7. $\frac{1}{4}(-8a + 12a)$

8. $-x(3x - 5)$



9.3 Factoring and Expanding

In each row, write the equivalent expression. If you get stuck, use a diagram to organize your work. The first row is provided as an example. Diagrams are provided for the first three rows.



factored	expanded
$-3(5-2y)$	$-15+6y$
$c(c-5)$	
	$8a-4b$
$-3(2w-7z)$	
$-(3y-2x)$	
	$12x-14x^2$
$n(3-10)$	
	$5y-7y$
$-5x(y-2z)$	
	$tw-tv-5tz$
$-a(2b-4c+a)$	