Unit 6 Lesson 9: Working with Signed Numbers

1 Sorting Expressions (Warm up)

Student Task Statement

Sort these into two groups, so that the expressions in each group all have the same value.

- $3 - 5$

- $5 + 3$

- $4 \cdot 2$

- $-\frac{1}{3} \cdot 6$

- $5 - \text{-}3$

- $\text{-}4 \cdot \text{-}2$

- $3 + \text{-}5$

- $\frac{1}{3} \cdot \text{-}6$

2 Expanded Form

Student Task Statement

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. $-x(3x - 5)$
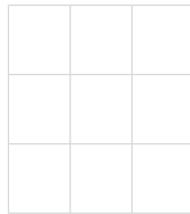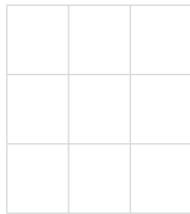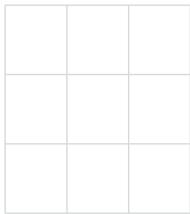
3 Factoring and Expanding

Student Task Statement

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.

	5	-2y
-3	-15	6y

	c	-5
c		

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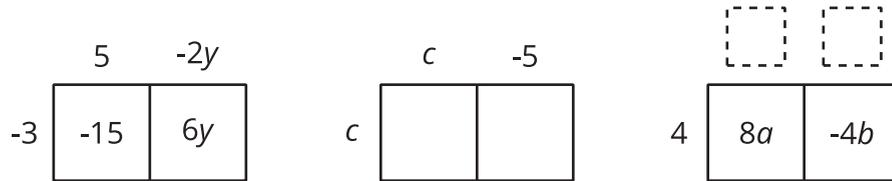
factored	expanded
$-3(5 - 2y)$	$-15 + 6y$
$c(c - 5)$	
	$8a - 4b$
$-3(2w - 7z)$	
$-(3y - 2x)$	
	$12x - 14x^2$
$n(3 - 10)$	
	$5y - 7y$
$-5x(y - 2z)$	
	$wt - tv - 5tz$
$-a(2b - 4c + a)$	