

## Unit 4 Lesson 8: Expanding and Factoring

### 1 Number Talk: Parentheses (Warm up)

#### Student Task Statement

Find the value of each expression mentally.

$$2 + 3 \cdot 4$$

$$(2 + 3)(4)$$

$$2 - 3 \cdot 4$$

$$2 - (3 + 4)$$

## 2 Factoring and Expanding with Negative Numbers

### 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.

$5$ $-2y$ $-3$ <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr> <td style="width: 50px; height: 50px;"><math>-15</math></td> <td style="width: 50px; height: 50px;"><math>6y</math></td> </tr> </table>	$-15$	$6y$	$a$ $-6$ $5$ <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr> <td style="width: 50px; height: 50px;"></td> <td style="width: 50px; height: 50px;"></td> </tr> </table>			<div style="text-align: center; margin-bottom: 5px;"> <span style="border: 1px dashed black; display: inline-block; width: 40px; height: 40px; vertical-align: middle;"></span> <span style="border: 1px dashed black; display: inline-block; width: 40px; height: 40px; vertical-align: middle; margin-left: 10px;"></span> </div> $2$ <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr> <td style="width: 50px; height: 50px;"><math>6a</math></td> <td style="width: 50px; height: 50px;"><math>-2b</math></td> </tr> </table>	$6a$	$-2b$
$-15$	$6y$							
$6a$	$-2b$							

factored	expanded
$-3(5 - 2y)$	$-15 + 6y$
$5(a - 6)$	
	$6a - 2b$
$-4(2w - 5z)$	
$-(2x - 3y)$	
	$20x - 10y + 15z$
$k(4 - 17)$	
	$10a - 13a$
$-2x(3y - z)$	
	$ab - bc - 3bd$
$-x(3y - z + 4w)$	