## Unit 4 Lesson 8: Expanding and Factoring

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

#### Student Task Statement

Find the value of each expression mentally.

$2+3⋅4$

$\left(2+3\right)\left(4\right)$

$2−3⋅4$

$2−\left(3+4\right)$

### 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.



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



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