Names (pair) _____ Date _____

Signs and Brackets

Example

$(-3)^2$: the bracket holds -3, so -3 is repeated:

$(-3) \times (-3) = 9$

-3^2: the power applies only to 3, and the minus stays in front:

$-(3 \times 3) = -9$

Remember

A power applies only to the number or bracket right in front of it: $-3^2 = -(3 \times 3) = -9$, but $(-3)^2 = (-3) \times (-3) = 9$. When a negative number is repeated, an even number of factors gives a positive answer, an odd number a negative one.

1 ON YOUR OWN Write as a product and work out.

expression	product	value
$(-2)^2$		
-2^2		
$(-2)^3$		
-2^3		
$(-2)^4$		
-2^4		

2 IN PAIRS Without working it out, decide: is the answer positive or negative? Circle.

$(-5)^7$ + / − $(-1)^{100}$ + / − -4^2 + / −

$(-7)^0$ + / − $-(-2)^3$ + / −

Names (pair) _____ Date _____

3 IN PAIRS **Find the mistake.** Max: $-5^2 = 25$. Ana: $(-1)^5 = 1$. Luke: $-3^2 = (-3)^2$. Write out the factors and correct them.

4 ON YOUR OWN Watch the order of operations: powers first, then multiplication and division, then addition and subtraction. Brackets come first.

$2 + 3^2 =$ ☐ $(2 + 3)^2 =$ ☐

$2 \times 3^2 =$ ☐ $(2 \times 3)^2 =$ ☐

$10 - 2^3 =$ ☐ $-2^2 + 5 =$ ☐

5 IN PAIRS **Check in Grapher.** Type $y = -x^2$ and $y = (-x)^2$. How are the graphs different? Which one is the same as $y = x^2$? Why?

The Grapher app · otooly.com/grapher

Type both equations from task 5 and turn on **Zeros** on the Analysis tab.

★ ON YOUR OWN **Exit card.** $(-4)^2 =$ ☐ $-4^2 =$ ☐ $(-1)^7 =$ ☐