Topic: Powers of negative bases

Question: Simplify the expression.

$$-3^2$$

Answer choices:

A 9

B 6

C -6

D -9

Solution: D

PEMDAS and order of operations tells us that we have to do the exponent first, and then multiply by the negative sign (which is actually a -1).

$$-3^2$$

$$-(3 \cdot 3)$$

$$-(9)$$

$$-9$$

We have to remember that -3^2 is different than $(-3)^2$. When we have $(-3)^2$, the negative sign is included inside the parentheses, and the exponent tells us to raise everything inside the parentheses to the power of 2. So it's like two factors of -3, or

$$(-3)^2$$

$$(-3)(-3)$$

$$9$$

Topic: Powers of negative bases

Question: Simplify the expression.

$$-1^2$$

Answer choices:

A -1

B 0

C 2

D 1

Solution: A

PEMDAS and order of operations tells us that we have to do the exponent first, and then multiply by the negative sign (which is actually a -1).

$$-1^2$$

$$-(1 \cdot 1)$$

$$-(1)$$

$$-1$$

We have to remember that -1^2 is different than $(-1)^2$. When we have $(-1)^2$, the negative sign is included inside the parentheses, and the exponent tells us to raise everything inside the parentheses to the power of 2. So it's like two factors of -1, or

$$(-1)^2$$

$$(-1)(-1)$$

$$1$$

Topic: Powers of negative bases

Question: Simplify the expression.

$$(-1)^2$$

Answer choices:

A -1

B 0

C 2

D 1

Solution: D

When we have $(-1)^2$, the negative sign is included inside the parentheses, and the exponent tells us to raise everything inside the parentheses to the power of 2. So it's like two factors of -1, or

$$(-1)^2$$

$$(-1)(-1)$$

$$1$$