Topic: Absolute value of an expression

Question: Simplify the expression.

$$-|-3|$$

Answer choices:

A 3

B 0

C -3

D 1

Solution: C

Order of operations tells us that we have to take the absolute value of -3 first, before we apply the minus sign that's outside the absolute value bars.

Absolute value is the same as "distance from the origin," and -3 is three units from the origin on the number line, so $|-3| = 3$. But then we still have to apply the negative sign that's outside the absolute value bars, so we get

$$-|-3| = -3$$

Topic: Absolute value of an expression

Question: Simplify the expression.

$$|-3-2|$$

Answer choices:

A 1

B -5

C -1

D 5

Solution: D

Order of operations tells us that we have to do the computation inside the absolute value bars first. When we subtract 2 from -3, we get -5.

$$|-3-2|$$

$$|-3-2| = |-5|$$

Absolute value bars tell us that we need to find the distance from the origin of whatever's inside the absolute value bars. Since -5 is five units away from the origin on the number line, we get

$$|-3-2| = 5$$

Topic: Absolute value of an expression

Question: Simplify the expression.

$$-|2-3-3|-|-2|$$

Answer choices:

A 6

B 2

C -6

D -4

Solution: C

Order of operations tells us that we have to do the computation inside the absolute value bars first.

$$-|2-3-3|-|-2|$$

$$-|-4|-|-2|$$

Absolute value bars tell us that we need to find the distance from the origin of whatever's inside the absolute value bars. Since the point -4 is 4 units from the origin on the number line, we get

$$-4-|-2|$$

Since the point -2 is 2 units from the origin on the number line, we get

$$-4-2$$

$$-6$$