

**Topic:** Radical expressions**Question:** Find the value of  $3\sqrt{18} \cdot \sqrt{10}$ .**Answer choices:**

A  $18\sqrt{5}$

B  $9\sqrt{5}$

C  $9\sqrt{10}$

D 95



**Solution: A**

First simplify the radicals individually.

$$3\sqrt{9 \cdot 2} \cdot \sqrt{10}$$

$$3\sqrt{9}\sqrt{2} \cdot \sqrt{10}$$

$$3(3)\sqrt{2} \cdot \sqrt{10}$$

$$9\sqrt{2} \cdot \sqrt{10}$$

Now factor the second radicand to split it apart,

$$9\sqrt{2} \cdot \sqrt{2 \cdot 5}$$

$$9\sqrt{2} \cdot \sqrt{2}\sqrt{5}$$

group together like terms, and simplify.

$$9(\sqrt{2}\sqrt{2})\sqrt{5}$$

$$9(2)\sqrt{5}$$

$$18\sqrt{5}$$



**Topic:** Radical expressions**Question:** Simplify the expression.

$$14 + \sqrt{16}$$

**Answer choices:**

- A      17
- B      18
- C      19
- D      20



**Solution: B**

We know that 16 is a perfect square, so we'll take its square root.

$$14 + \sqrt{16}$$

$$14 + 4$$

$$18$$



**Topic:** Radical expressions**Question:** Simplify the expression.

$$\sqrt{200}$$

**Answer choices:**

A  $\sqrt{300}$

B  $2\sqrt{3}$

C  $10\sqrt{2}$

D  $8\sqrt{2}$



**Solution: C**

We know that 100 is a factor of 200, and also a perfect square, so we'll pull that out.

$$\sqrt{200}$$

$$\sqrt{100 \cdot 2}$$

$$\sqrt{100}\sqrt{2}$$

Take the square root of 100.

$$10\sqrt{2}$$

