

**Topic:** Multiplying radicals**Question:** Simplify the expression.

$$\sqrt{3} \cdot \sqrt{6}$$

**Answer choices:**

A  $\sqrt{2}$

B  $3\sqrt{2}$

C  $\sqrt{12}$

D  $2\sqrt{3}$



**Solution: B**

We need to use the rule that tells us that

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{mn}$$

Applying this rule to the expression, we get

$$\sqrt{3} \cdot \sqrt{6}$$

$$\sqrt{3 \cdot 6}$$

$$\sqrt{18}$$

Then we can simplify the remaining radical.

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

$$\sqrt{9}\sqrt{2}$$

$$3\sqrt{2}$$



**Topic:** Multiplying radicals**Question:** Simplify the expression.

$$\sqrt{2} \cdot \sqrt{8}$$

**Answer choices:**

A  $\sqrt{4}$

B 2

C 4

D 16



**Solution: C**

We need to use the rule that tells us that

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{mn}$$

Applying this to our problem, we can rewrite it.

$$\sqrt{2} \cdot \sqrt{8}$$

$$\sqrt{2 \cdot 8}$$

$$\sqrt{16}$$

$$4$$



**Topic:** Multiplying radicals**Question:** Simplify the expression.

$$\sqrt{25} \cdot \sqrt{2}$$

**Answer choices:**

- A  $\sqrt{5}$
- B  $5\sqrt{2}$
- C 100
- D 50



**Solution: B**

Normally we would use the rule that tells us that

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{mn}$$

and we'd get

$$\sqrt{25} \cdot \sqrt{2}$$

$$\sqrt{25 \cdot 2}$$

$$\sqrt{50}$$

but then we'd need to work on simplifying  $\sqrt{50}$ . It would be easier to realize that 25 is the perfect square of 5, and simplify the original problem to

$$\sqrt{25} \cdot \sqrt{2}$$

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

$$5\sqrt{2}$$

