Topic: Powers of 10

Question: Simplify the expression.

$$350 \times 10^3$$

Answer choices:

A   350,000

B   35,000

C   0.0035

D   3,500

Solution: A

When we multiply by a power of 10, we move the decimal point to the right (by the number of places equal to the exponent if we write the power of 10 in exponential form). Since the exponent in 10^3 is 3, we move the decimal point three places to the right.

$$350 \times 10^3$$

$$350{,}000$$

Topic: Powers of 10

Question: Simplify the expression.

$$2.7 \times 10^5$$

Answer choices:

A   270,000

B   2,700,000

C   27,000

D   2,700

Solution: A

When we multiply by a power of 10, we move the decimal point to the right (by the number of places equal to the exponent if we write the power of 10 in exponential form). Since the exponent in 10^5 is 5, we move the decimal point five places to the right.

$$2.7 \times 10^5$$

$$270{,}000$$

Topic: Powers of 10

Question: Simplify the expression.

$$7.25 \times 10^{-3}$$

Answer choices:

A   0.00725

B   0.0725

C   725

D   0.725

Solution: A

When the power of 10 is negative, we move the decimal point to the left the number of places indicated by the exponent. Since the exponent is negative 3, we move the decimal point to the left three places, and we get

$$7.25 \times 10^{-3}$$

$$0.00725$$