Exercises - Laws of Exponents and Scientific Notation

1

If $(-a^2b^3)(2ab^2)(-3b) = ka^mb^n$, what is the value of $m+n$?

2

If $(\frac{2}{3}a^2b)^2(\frac{4}{3}ab)^{-3} = ka^mb^n$, what is the value of k?

3

If $\frac{(x)^3(-y)^2z^{-2}}{(x)^{-2}y^3z} = \frac{x^m}{y^nz^p}$, what is the value of $m+n+p$?

4

If $2^x = 5$, what is the value of $2^x + 2^{2x} + 2^{3x}$?

5

$$(3^x + 3^x + 3^x)\cdot 3^x$$

Which of the following is equivalent to the expression shown above?

A) 3^{4x}

B) 3^{3x^2}

C) 3^{1+3x}

D) 3^{1+2x}

6

$$\frac{(6xy^2)(2xy)^2}{8x^2y^2}$$

If the expression above is written in the form ax^my^n, what is the value of $m+n$?

7

If x is not equal to zero, what is the value of $\frac{(2x)^3(3x)}{(6x^2)^2}$?

8

If $8,200\times300,000$ is equal to 2.46×10^n, what is the value of n?

9

If $\frac{240}{80,000}\times\frac{6,000}{900,000}$ is equal to $\frac{1}{5\times10^n}$, what is the value of n?