

A.10

1.

Which is equivalent to $\frac{b^6}{b^2}$?

A $\frac{1}{b^3}$

B b^3

C b^4

D b^8

2.

The population of Asia is about 3.4×10^9 . The population of Africa is about 7×10^8 . About how many more people live in Asia than live in Africa?

F 27,000,000

G 270,000,000

H 360,000,000

J 2,700,000,000

3.

Which is equivalent to $\frac{x^5y^2z^8}{(xy)^{-3}}$?

A $\frac{x^2z^8}{y}$

B $x^{12}y^8z^8$

C $\frac{-x^4yz^8}{3}$

D $x^8y^5z^8$

4.

The diameter of a barium atom is 0.0000004346 millimeters. In scientific notation it is —

A 43.46×10^{-8} mm

B 4.346×10^7 mm

C 4.346×10^{-7} mm

D 4346.0×10^{-7} mm

5.

If $ab \neq 0$, which is equivalent to

$$\frac{-12a^3b^2}{6ab^2}?$$

F $2a^2b$

G $-2a^2$

H $-6a^2b$

J $6a^4b^4$

6.

Which is equivalent to $(2x^2)^3$?

F $8x^6$

G $6x^6$

H $8x^5$

J $6x^5$

7.

The continent of North America has an area of approximately 9.4×10^6 square miles. The area of Asia is approximately 1.74×10^7 square miles. How many square miles larger is Asia than North America?

F 7.6×10^1

G 7.6×10^{-1}

H 8.0×10^6

J 8.0×10^1

8.

Which is equivalent to

$$(-2ab^3)(-3a^2b^5)?$$

A $-5ab$

B $6a^2b^{15}$

C $6a^3b^2$

D $6a^3b^8$

9.

The speed of sound in water is 1.46×10^3 meters per second.

The speed of sound in air is 3.31×10^2 meters per second.

How much faster does sound travel in water than in air?

F 1.85×10^{-3} m/s

G 1.129×10^2 m/s

H 1.85×10^2 m/s

J 1.129×10^3 m/s