

## 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  $3.4 \times 10^9$ . The population of Africa is about  $7 \times 10^8$ . 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  $43.46 \times 10^{-8}$  mm

B  $4.346 \times 10^7$  mm

C  $4.346 \times 10^{-7}$  mm

D  $4346.0 \times 10^{-7}$  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  $9.4 \times 10^6$  square miles. The area of Asia is approximately  $1.74 \times 10^7$  square miles. How many square miles larger is Asia than North America?

F  $7.6 \times 10^1$

G  $7.6 \times 10^{-1}$

H  $8.0 \times 10^6$

J  $8.0 \times 10^1$

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  $1.46 \times 10^3$  meters per second.

The speed of sound in air is  $3.31 \times 10^2$  meters per second.

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

F  $1.85 \times 10^{-3}$  m/s

G  $1.129 \times 10^2$  m/s

H  $1.85 \times 10^2$  m/s

J  $1.129 \times 10^3$  m/s