Exponents and Multiplying Monomials 2

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Evaluate the exponential form.

1) 8^0 1) _____

A) 8 B) -1 C) 1 D) 0

2) $(0.9)^4$ 2) _____

A) 0.6561 B) 6561 C) 3.6 D) 0.225

Rewrite the expression with positive exponents then, if the expression is numeric, evaluate it.

3) x^{-5} 3) _____

A) x^5 B) $\frac{1}{x^5}$ C) $\frac{1}{x^{-5}}$ D) 5x

4) -5^{-2} 4) _____

A) -25 B) $\frac{1}{10}$ C) 25 D) $-\frac{1}{25}$

5) $(0.01)^{-3}$ 5) _____

A) 1,000,000 B) - 0.000001 C) - 1,000,000 D) 10,000,000

Evaluate the expression. Round to five decimal places when necessary.

6) $\left(\frac{1}{4}\right)^{-3}$ 6) _____

A) 64 B) $\frac{1}{12}$ C) -64 D) $\frac{1}{64}$

7) $(16.4)^{-2}$ 7) _____

A) 0.00372 B) 268.96 C) 4.04969 D) 32.8

Write the number in standard form.

8) A computer can do one calculation in 1.4×10^{-7} seconds. 8) _____

A) 14,000,000 B) 0.00000014 C) 0.000000014 D) 0.000014

Provide an appropriate response.

9) Rank the numbers in order from smallest to largest. 9) _____

4.19×10^2, 3.76×10^5, 5.44×10^{-2}, 5.25×10^2, 3.19×10^{-5}

A) $3.76 \times 10^5 < 5.25 \times 10^2 < 4.19 \times 10^2 < 5.44 \times 10^{-2} < 3.19 \times 10^{-5}$

B) $5.44 \times 10^{-2} < 3.19 \times 10^{-5} < 4.19 \times 10^2 < 5.25 \times 10^2 < 3.76 \times 10^5$

C) $3.19 \times 10^{-5} < 5.44 \times 10^{-2} < 4.19 \times 10^2 < 5.25 \times 10^2 < 3.76 \times 10^5$

D) $3.19 \times 10^{-5} < 4.19 \times 10^2 < 5.25 \times 10^2 < 3.76 \times 10^5 < 5.44 \times 10^{-2}$

10) Tell whether or not the number is given in scientific notation. 10) _____

16.39×10^{15}

A) Yes B) No

11) Determine if the expression $(-3)^{-10}$ is positive or negative. 11) _____

A) Positive B) Negative

Write the number in scientific notation.

12) The frequency of a vibration was about 1000 Hz. 12) _____

A) 1×10^4 B) 1×10^2 C) 1×10^3 D) 1×10^5

Write the number in standard form.

13) The signal frequency was set to 1.35×10^6 Hz. 13) _____

A) 135,000 B) 81 C) 1,350,000 D) 13,500,000

Multiply.

14) $(-4y)(-9y^9)$ 14) _____

A) $-13y^9$ B) $36y^{10}$ C) $-36y^{10}$ D) $4y - 9y^9$

15) $(-4m^3z^4)(2m^2z^2)$ 15) _____

A) $-8mz^6$ B) $-8mz^5$ C) $-8m^5z^6$ D) $-8m^6z^5$

16) $5x^8\left(\frac{1}{10}xyz\right)\left(-\frac{2}{3}y^2z^2\right)$ 16) _____

A) $-\frac{1}{15}x^8y^3z^3$ B) $-\frac{1}{3}x^8y^2z^2$ C) $\frac{1}{6}x^9y^2z^2$ D) $-\frac{1}{3}x^9y^3z^3$

Simplify.

17) $(3x^5)^4$ 17) _____

A) $3x^9$ B) $81x^{19}$ C) $81x^{20}$ D) $81x^5$

18) $\left(-\frac{1}{2}xy^6z^8\right)^2\left(\frac{1}{2}x^8y^6z\right)^2$ 18) _____

A) $\frac{1}{16}x^{11}y^{14}z^{11}$ B) $\frac{1}{16}x^{18}y^{24}z^{18}$ C) $\frac{1}{4}x^{11}y^{14}z^{11}$ D) $-\frac{1}{4}x^{18}y^{24}z^{18}$

Answer Key
Testname: EXPONENT RULES AND MULTIPLYING MONOMIALS2.TMP

1) C
2) A
3) B
4) D
5) A
6) A
7) A
8) B
9) C
10) B
11) A
12) C
13) C
14) B
15) C
16) D
17) C
18) B