

Pre-Algebra, Unit 3A Practice Test: Integer Exponents

Name:

Date:

1. A. Describe the rule for multiplying powers with the same base and give an example.

B. Describe the rule for the quotient of powers with the same base and give an example.

2. Describe the Power of a Power Property and give an example.

3. Identify the base and the exponent. n^4

(SE) For problems 4 – 9, find the product or quotient.

4. $x^{-3} \cdot x^5$

7. $\frac{24m^{11}}{18m^5}$

5. $\frac{x^8}{x^4}$

8. $x^0 \cdot 1000$

6. $2n^5 \cdot 3n^2$

9. $\frac{1}{3^{-3}}$

10. (SE) Which expression is equivalent to 10^8 ?

A. $(10^2)^4$

B. $\frac{10^2}{10^6}$

C. $10^4 \cdot 10^2$

D. $(-10)^{-8}$

11. (SE) Which expression is equivalent to 5^{-4} ?

A. $-4 \cdot 5$

B. $\frac{4}{5}$

C. -4^5

D. $\frac{1}{5^4}$

12. (SE) Evaluate $\frac{3^2}{3^6}$.

- A. -81
- B. $-\frac{1}{81}$
- C. $\frac{1}{81}$
- D. 81

13. (SE) Which value of N would make the statement true?

$$(5^{-N})^3 = 5^{15}$$

- A. $N = -5$
- B. $N = -12$
- C. $N = -18$
- D. $N = -45$

14. (SE) Which is an equivalent form of the fraction?

$$\frac{2x^3}{10y^{-2}}$$

- A. $\frac{1}{5x^3y^2}$
- B. $\frac{x^3y^2}{5}$
- C. $5x^3y^2$
- D. $\frac{5y^2}{x^3}$

15. (SE) Evaluate $\frac{y}{x^{-3}}$ when $x = 2$ and $y = 4$.

- A. 32
- B. 24
- C. $\frac{1}{2}$
- D. $-\frac{2}{3}$

16. (SBAC) Select all of the expressions that have a value between 0 and 1.

- A. $\left(\frac{1}{4}\right)^2 \cdot \left(\frac{1}{4}\right)^4$
- B. $\frac{(-2)^4}{(-2)^6}$
- C. $\frac{9^5}{9^{-3}}$
- D. $5^6 \cdot 5^{-9}$

Long term memory review:

17. (SE) Write $0.\overline{54}$ as a fraction. Show your work.

18. (SE) Solve the equation for x . Show your work.

$$-2(3x - 5) + 4x = 13$$