

Unit 1 Post Test Review

Name: _____ Per: _____

1. Simplify $6^3 \cdot 6^7$

2. Simplify the expression: $\frac{v^2}{v^6}$.

A $\frac{v^2}{v^4}$

C $\frac{1}{v^4}$

B $\frac{v}{v^{12}}$

D v^4

3. Evaluate $a^0 b^{-2}$ for $a = 2$ and $b = -2$.

4. Explain how you would write 3^{15} as a product of powers.

A Multiply 2 powers, both with a base of 3. The product of the exponents should be 15.

B Multiply 2 powers, both with a base of 3. The sum of the exponents should be 15.

C Multiply 2 powers, both with an exponent of 15. The product of the bases should be 3

D A power with base 9 and $3 \cdot 5$ as the exponent

5. Find all square roots of the number 225. (8.EE.2)

A 15, -15

C 20, -25

B 16, -16

D 25, -25

6. Find the cube root(s) of 27?

A 3, -3

C 3

B -3

D 3, 9

7. Solve for x when $x^2 = 36$.

8. Laura is making a mosaic using ceramic tiles that are one-inch squares. If she uses 64 tiles to make a square mosaic, how long is each side of the mosaic? *Show your work!*

1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	

9. Describe $\sqrt{2}$ as rational, irrational, not real, or natural. If a real number, give the approximate value. (8.EE.2); (8.NS.1)

- A Rational; 1.4
- B Irrational; 1.4142....

- C not a real number
- D natural number; 1

10. Kelly is learning about rational and irrational numbers. What conclusion can she draw about the number 0.01011011100011111011...? (8.NS.1)

- A It is rational because it repeats.
- B It is rational because it terminates.
- C It is irrational because it neither repeats nor terminates.
- D It is irrational because it repeats

11. Express the fraction $\frac{7}{9}$ as a decimal.

12. Write 0.35 as a fraction in simplest form.

13. What is the product of $(7.006 \times 10^4) \times (5.09 \times 10^2)$ expressed in scientific notation?

14. In 2011, the population of the China was about 1.35×10^9 . The population of Ghana was about 2.55×10^7 . About how much more was the population of the China than Ghana?

15. A virus is 6.7×10^{-12} inches wide. If a human hair is 45,000 times bigger, what is the width of a human hair expressed in scientific notation?

9)	_____
10)	_____
11)	_____
12)	_____
13)	_____
14)	_____
15)	_____