



Ninth Grade - Real Number System

1) Evaluate the following with rational exponents $8^{\frac{1}{3}}$?

- 7
- 6
- 5
- 4

2) Evaluate the following with rational exponents $(27)^{\frac{2}{3}}$??

- $\frac{2}{3}$
- $\frac{3}{2}$
- $\frac{1}{9}$
- $\frac{1}{8}$

3) Evaluate the following with rational exponents $(100)^{\frac{3}{2}}$

- 2000
- 1000
- 4000
- 3000

4) Evaluate the following with rational exponents $9^{\frac{3}{2}}$

- 12
- 45
- 28
- 27

5) Evaluate the following with rational exponents $(x^2)^{\frac{1}{2}}$



- $2x$
- x
- $2x^2$
- x^2

6) Evaluate the following with rational exponents $(64a^?)^?$

- $3a$
- $2a$
- $3a^2$
- $2a^2$

7) Evaluate $(y^{12})^{\frac{1}{4}}$ with rational exponents

- y^3
- y^2
- y
- $2y$

8) Evaluate $(a^?)^{\frac{1}{4}}$ with rational exponents

- a
- a^2
- $2a$
- a^3

9) Solve $(4)^? / (4)^2$ using the properties of exponents

- 45
- 21
- 32
- 64



10) Solve the following using the properties of exponents $(y)^? \times (y)^?$

- y
- y^2
- $3y$
- y^3

11) Solve $(x)^{1/4} \times (x)^1$ using the properties of exponents

a) $(x)^{5/4}$ b) $(x)^{3/4}$ c) $(x)^{3/5}$ d) $(x)^{4/5}$

- b
- d
- c
- a

12) Solve $(y)^1 \times (y)^2$ using the properties of exponents

- y^3
- y^2
- y
- $2y$

13) Solve the properties of exponents? $(x)^? \times (x)^{??}$

- $x^?$
- $x^?$
- $x^?$
- $x^?$

14) Solve $(5)^{?}/(5)^2$ the using properties of exponents



- 45
- 13
- 35
- 25

15) Solve the following using the properties of exponents

$$(x)^y \div (x)^z$$

$$a. (x)^{x/w} \quad b. (x)^{x/z} \quad c. (x)^{z/x} \quad d. (x)^{y-z}$$

- a
- b
- c
- d

16) Solve the following using the properties of exponents

$$(8)^x \div (8)^y$$

$$a) (8)^{z-y} \quad b) (8)^{z-x} \quad c) (8)^{x-y} \quad d) (8)^{x-x}$$

- d
- b
- a
- c

17) Solve the following using the properties of exponents $(4^{3/2})^2$

- 45
- 65
- 64
- 12



18) Solve the following using the properties of exponents

$$(1/2^5)^{1/4}$$

$$(a) (1/2)^{5/3} \quad (b) (1/2)^{5/4} \quad (c) (1/2)^{4/3} \quad (d) (1/2)^{3/4}$$

- d
- c
- b
- a

19) Solve the following using the properties of exponents

$$(y^a)^{b/4}$$

$$a) (y^{ab/4}) \quad b) (y^{3a}) \quad c) (y^{3a/2}) \quad d) (y^{3a/3})$$

- b
- c
- a
- d

20) Solve $(9 \times 4)^{1/2}$ using the properties of exponents

- 6
- 7
- 4
- 9

21) Solve $(5 \times 2)^2$ using the properties of exponents

- 200
- 124
- 100
- 245



22) Solve the following using properties of exponents $(8/27)^{3/4}$?

- $3/7$
- $8/9$
- $2/3$
- $4/2$

23) Solve the following using properties of exponents $(x/z)^{1/2}$?

- $x^? / z^?$
- $x^{1/2} / z^?$
- $x^? / z^?$
- x^2 / z^2

24) Solve $(7/2)^{3/4}$ using the properties of exponents

- $8x/5x$
- $7^{3/2}$
- $8^{3/3}$
- $2^{3/3}$

25) Solve $(7/5)^{3/4}$ using the properties of exponents

- $(5/7)^2$
- $(5/7)^3$
- $(5/9)^3$
- $(9/7)^2$

26) Solve the following using properties of exponents $(12^? / 4^?)^{2/3}$

- $(1/5)^?$



- $(2/9)?$
- $(1/6)?$
- $(1/3)?$

27) Solve the following using properties of exponents $x^{1/2} / y ??$

- $y?$
- $x? / y^{1/2}$
- $y? / x^{1/2}$
- $x^{1/2}$

28) Solve the following using properties of exponents

$$(7)^{-x} / (8)^{-y}$$

$$a) (5)^y / (3)^x \quad b) (4)^y / (3)^x \quad c) (9)^y / (7)^x \quad d) (8)^y / (7)^x$$

- d
- b
- a
- c

29) Solve $(5 \times 5)^2$ using the properties of exponents?

- 123
- 457
- 478
- 625

30) Solve the following using properties of exponents



$$(8)^{-m} / (6)^{-n}$$

$$a) 8/6 \quad b) 7/6 \quad c) 3/6 \quad d) (6)^n / (8)^m$$

- c
- b
- d
- a