



## Ninth Grade - Real Number System

1) Evaluate the following with rational exponents  $8^{2/3}$ ?

- 4
- 6
- 7
- 5

2) Evaluate the following with rational exponents  $(27)^{1/3}$ ??

- $3/2$
- $2/3$
- $1/8$
- $1/9$

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

- 1000
- 2000
- 3000
- 4000

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

- 12
- 27
- 28
- 45

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



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

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

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

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

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

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

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

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

- 32
- 45
- 64
- 21



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

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

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)  $(x)^{4/5}$

- a
- b
- d
- c

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

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

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

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

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



- 45
- 35
- 25
- 13

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
- a
- c
- b

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

- 65
- 45
- 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
- a
- c
- b

19) Solve the following using the properties of exponents

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

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

- d
- b
- a
- c

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

- 7
- 9
- 4
- 6

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

- 100
- 245
- 124
- 200



22) Solve the following using properties of exponents  $(8/27)$  ?

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

23) Solve the following using properties of exponents  $(x/z)$  ?

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

24) Solve  $(7/2)^?$  using the properties of exponents

- $8x/5x$
- $2^?/3^?$
- $7^?/2^?$
- $8^?/3^?$

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

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

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

- $(2/9)^?$



- $(1/6)?$
- $(1/5)?$
- $(1/3)?$

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

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

28) Solve the following using properties of exponents

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

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

- b
- a
- c
- d

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

- 625
- 123
- 478
- 457

30) Solve the following using properties of exponents



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

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

- d
- c
- b
- a