



Ninth Grade - Real Number System

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

- 6
- 5
- 7
- 4

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

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

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

- 2000
- 3000
- 4000
- 1000

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

- 28
- 45
- 12
- 27

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



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

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

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

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

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

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

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

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

- 32
- 45
- 64
- 21



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

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

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
- a
- c
- d

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

- $2y$
- y^2
- 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



- 13
- 45
- 35
- 25

15) Solve the following using the properties of exponents

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

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

- c
- b
- a
- d

16) Solve the following using the properties of exponents

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

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

- a
- b
- c
- d

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

- 12
- 45
- 64
- 65



18) Solve the following using the properties of exponents

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

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

- c
- d
- b
- a

19) Solve the following using the properties of exponents

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

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

- d
- b
- a
- c

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

- 9
- 7
- 6
- 4

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

- 200
- 245
- 100
- 124



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

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

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

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

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

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

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

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

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

- $(1/3)^?$



- $(1/5)?$
- $(1/6)?$
- $(2/9)?$

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

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

28) Solve the following using properties of exponents

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

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

- b
- d
- 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



$$(8)^{-nx} / (6)^{-ny}$$

a) $8/6$ b) $7/6$ c) $3/6$ d) $(6)^{ny} / (8)^{nx}$

- a
- d
- c
- b