Tenth Grade - Real Number System

1) Evaluate the following with rational exponents

 $(8)^{2/3}$

- 4
- 1
- 6
- 2
- 2) Evaluate the following with rational exponents

 $(27)^{-2/3}$

- 1/9
- 2/3
- 1/4
- 1/7
- 3) Evaluate the following with rational exponents

 $(100)^{3/2}$

- 2000
- 4000
- 1000
- 5000
- 4) Evaluate the following with rational exponents

 $(9)^{3/2}$

• 15

- 21
- 27
- 17
- 5) Evaluate the following with rational exponents

$$(16)^{-5/4}$$

- 1/32
- 1/21
- 3/16
- 2/23
- 6) Evaluate the following with rational exponents

$$(x^2)^{1/2}$$

- 4/9
- x/6
- 3/8
- x
- 7) Evaluate the following with rational exponents

$$(64a^6)^{1/6}$$

- 2a
- 6a
- 5a
- 4a
- 8) Evaluate $(y^{12})^1$? with rational exponents

- y/3
- y³
- y/8
- y²
- 9) Evaluate (a?)1/4 with rational exponents
 - a²
 - a/8
 - 2a
 - a/3
- 10) Solve: (4)? × (4)²
 - 56
 - 64
 - 36
 - 42
- 11) Solve the following using the properties of exponents

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

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

- b
- a
- C
- d
- 12) 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) $(8)^{x-x}$

- C
- a
- b
- d

13) Solve the following using the properties of exponents

$$(4^{3/2})^2$$

- 87
- 64
- 23
- 65

14) Solve the following using the properties of exponents

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

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

- h
- C
- b
- d

15) Solve the following using the properties of exponents

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

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

- C
- d
- b
- a
- 16) Solve the following using the properties of exponents

$$(12^{1/3}/4^{1/3})^{-2}$$

(a)
$$(1/3)^{2/3}$$
 (b) $(1/5)^{3/2}$ (c) $(1/6)^{5/9}$ (d) $(2/9)^{2/3}$

- d
- b
- a
- 0
- 17) Solve the following using the properties of exponents

$$(x)^{-1/2}/(y)^{-1/3}$$

$$(a)(y)^{1/3}/(x)^{1/2}$$
 (b) $(y)^{2/3}$ (c) $(x)^{1/2}$ (d) $(x)^{1/3}/(y)^{1/2}$

- C
- d
- a
- b
- 18) Solve the following using the properties of exponents

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

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

- b
- a
- d

• C

- 19) Solve the following using properties of exponents
- $(8)^{-mx}/(6)^{-ny}$
- a) 8/6 b) 7/6 c) 3/6 d) $(6)^{ny}/(8)^{mx}$
 - d
 - C
 - a
 - b
- 20) Solve the following using properties of exponents

$$(x/z)^{1/5}$$

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

- 0
- b
- a
- d
- 21) Simplify the radicals using given operation

$$\sqrt[3]{16} - \sqrt[3]{2}$$

(a)
$$\sqrt[4]{2}$$
 (b) $\sqrt[4]{13}$ (c) $\sqrt[4]{6}$ (d) $\sqrt[3]{2}$

- a
- d
- C
- h

22) Simplify the radicals using given operations

$$3\sqrt[5]{y} + 6\sqrt[5]{y}$$

- (a) $9\sqrt[5]{y}$ (b) $2\sqrt[5]{3y}$ (c) $6\sqrt[5]{6y}$ (d) $3\sqrt[5]{2y}$

23) Simplify the radicals using given operations

$$6\sqrt[3]{y} - 11\sqrt[3]{y}$$

(a)
$$-3\sqrt[6]{2y}$$
 (b) $2\sqrt[3]{3y}$ (c) $-5\sqrt[3]{y}$ (d) $7\sqrt[3]{2y}$

24) Simplify the radicals using given operations

$$2x\sqrt[3]{y} - 7x\sqrt[3]{y}$$

(a)
$$-5x\sqrt[3]{y}$$

(b)
$$-6x\sqrt[3]{2y}$$

(c)
$$5x\sqrt[4]{y^2}$$

(a)
$$-5x\sqrt[3]{y}$$
 (b) $-6x\sqrt[3]{2y}$ (c) $5x\sqrt[4]{y^2}$ (d) $6x\sqrt[4]{2y^2}$

25) Simplify the radicals using given operations

$$3x\sqrt[3]{5x^5} - 2x\sqrt[3]{5x^5}$$

- (a) $x\sqrt[3]{5x^5}$ (b) $2x\sqrt[4]{4x^6}$ (c) $-2x\sqrt[3]{7x^6}$ (d) $4x\sqrt[3]{6x^9}$

26) Simplify the radicals using given operations

$$7\sqrt[5]{6} + 2\sqrt[5]{6}$$

- (a) $9\sqrt[5]{6}$ (b) $9\sqrt[5]{5}$ (c) $9\sqrt[5]{4}$ (d) $9\sqrt[4]{7}$

27) Simplify the radicals using given operations

$$\sqrt[3]{2} + 5\sqrt[3]{2}$$

- (a) $6\sqrt[3]{2}$ (b) $5\sqrt[3]{3}$ (c) $4\sqrt[3]{4}$ (d) $9\sqrt[3]{2}$

28) Simplify the radicals using given operations

$$10\sqrt{2} - 2\sqrt{2} + 4\sqrt{32}$$

- (a) $2\sqrt{2}$ (b) $2\sqrt{3}$ (c) $23\sqrt{6}$ (d) $24\sqrt{2}$

- a

29) Simplify the radicals using given operations

$$\sqrt{48} - 3\sqrt{72} - \sqrt{27} + 5\sqrt{18}$$

- (a) $\sqrt{6}-6\sqrt{2}$ (b) $\sqrt{2}-3\sqrt{3}$ (c) $\sqrt{3}-3\sqrt{2}$ (d) $\sqrt{4}-3\sqrt{6}$
 - d

30) Simplify the radicals using given operations

$$\sqrt{5}/2 - 10/\sqrt{5} + \sqrt{125}$$

- 5.211
- 7.826
- 2.876