

Exercise 2.3

Q. 1: change the following radical expressions to exponential and exponential to radical terms.

$$(i) \sqrt[3]{-64}$$

Solution:

$$(i) \sqrt[3]{-64} \quad (ii) 2^{3/5}$$

$$(ii) 2^{3/5}$$

$$\sqrt[3]{-64}$$

$$= (2^3)^{1/5}$$

$$= -(7)^{1/3}$$

$$=$$

$$(iii) -7^{1/3}$$

$$(iv) y^{-2/3}$$

$$=$$

$$= (x-2)^{2/3}$$

(False)

(False)

(iii) — 713

$$= (-64)^{13}$$

=

$$5\sqrt{23}$$

$$-3\sqrt{7}$$

³

$$y^{-2}$$

(iv) $1 - \frac{2}{3}$

_y

Q. 2: Tell whether the following statements are true or false?

Simplify the following radical expressions.

(ii) $22 = 3\sqrt{4}$

₃

$$(iv) \sqrt[3]{x^3} = x$$

(True)

(False)

$$(i) \sqrt{5/5} = \sqrt{5}$$

$$(iii) \sqrt{49} = \sqrt{7}$$

Q. 3:

³

(i)

$$\sqrt[3]{-125}$$

³

=

$$= \sqrt[3]{-5 \times -5 \times -5}$$

³

(ii)

⁴

$$\sqrt[4]{32}$$

=

$$(-5)^3$$

$$= (-5)^{3 \times 1/3}$$

$$= -5$$

⁴

$$= \sqrt[4]{2 \times 2 \times 2 \times 2 \times 2}$$

$$= \sqrt[4]{2^5}$$

$$= 2\sqrt{2}$$

(iii)

$$5^3$$

$$32$$

(iv)

$$\frac{3}{8}$$

$$\frac{27}{11}$$

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$$\frac{10}{5 \times 3}$$

$$2 \times 2 \times 2 \times 2 \times 2$$

$$5\sqrt{3}$$

$$\frac{11}{11}$$

$$\frac{1}{1} = \frac{1}{1}$$

257

$\sqrt{3}$

2

$3-2x-2x-2$

$3 \times 3 \times 3$

$3(-2)3$

2

33

(S) $3 + 1/3$

3

2

3

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