Grade 8 - Worksheet - Activity A

Term 3

8.3 Rational Exponents

NAME _____ CLASS _____ Date: _____ /2026

1. Choose the correct answer, from Q1-15 Rewrite in radical form, and from 16-20 write in rational exponents form

Question 1

Rewrite $x^{1/2}$

a. $\sqrt{x}$

b. $\sqrt[3]{x}$

c. x^2

d. $\frac{1}{\sqrt{x}}$

Question 2

Rewrite $x^{1/3}$

a. $\sqrt{x}$

b. $\sqrt[3]{x}$

c. x^3

d. $\frac{1}{x^3}$

Question 3

Rewrite $x^{2/3}$

a. $\sqrt[3]{x^2}$

b. $(\sqrt{x})^2$

c. $\sqrt{x^3}$

d. $\frac{1}{\sqrt[3]{x^2}}$

Question 4

Rewrite $x^{3/2}$

a. $\sqrt{x^3}$

b. $\sqrt[3]{x^2}$

c. $x\sqrt{x}$

d. Both a and c

Question 5

Rewrite $16^{1/2}$

a. $\sqrt{16}$

b. $\sqrt[3]{16}$

c. 16

d. $\frac{1}{\sqrt{16}}$

Question 6

Rewrite $27^{1/3}$

a. $\sqrt{27}$

b. $\sqrt[3]{27}$

c. 27

d. $\frac{1}{\sqrt[3]{27}}$

Question 7

Rewrite $x^{4/3}$

a. $\sqrt[3]{x^4}$

b. $(\sqrt[3]{x})^4$

c. $x\sqrt[3]{x}$

d. All of the above

Question 8

Rewrite $x^{5/2}$

a. $\sqrt{x^5}$

b. $x^2\sqrt{x}$

c. $(\sqrt{x})^5$

d. All of the above

Question 9

Rewrite $x^{-1/2}$

a. $\sqrt{x}$

b. $\frac{1}{\sqrt{x}}$

c. $\sqrt[3]{x}$

d. $x\sqrt{x}$

Question 10

Rewrite $x^{-2/3}$

a. $\sqrt[3]{x^2}$

b. $\frac{1}{\sqrt[3]{x^2}}$

c. $\frac{1}{\sqrt{x^3}}$

d. $x\sqrt[3]{x}$

Question 11

Rewrite $8^{2/3}$

a. $\sqrt[3]{8^2}$

b. $(\sqrt[3]{8})^2$

c. $\sqrt{8^3}$

Question 12

Rewrite $9^{3/2}$

a. $\sqrt{9^3}$

b. $(\sqrt{9})^3$

c. $9\sqrt{9}$

Question 13

Rewrite $x^{1/4}$

a. $\sqrt{x}$

b. $\sqrt[4]{x}$

c. x^4

d. $\frac{1}{\sqrt[4]{x}}$

Question 14

Rewrite $x^{3/4}$

a. $\sqrt[4]{x^3}$

b. $(\sqrt[4]{x})^3$

c. Both a and b

d. $x\sqrt[4]{x}$

Question 15

Rewrite $x^{-3/2}$

a. $\sqrt{x^3}$

b. $\frac{1}{\sqrt{x^3}}$

c. $\frac{1}{x\sqrt{x}}$

d. Both b and c

Question 16

Rewrite $\sqrt{x}$

a. $x^{1/2}$

b. x^2

c. $x^{1/3}$

d. $x^{-1/2}$

Question 17

Rewrite $\sqrt[3]{x}$

a. $x^{1/2}$

b. $x^{1/3}$

c. x^3

d. $x^{-1/3}$

Question 18

Rewrite $\sqrt[4]{x^3}$

a. $x^{3/4}$

b. $x^{4/3}$

c. $x^{1/4}$

d. $x^{3/2}$

Question 19

Rewrite $\sqrt{x^5}$

a. $x^{5/2}$

b. $x^{2/5}$

c. $x^{1/5}$

d. x^5

Question 20

Rewrite $\sqrt[3]{x^2}$

a. $x^{2/3}$

b. $x^{3/2}$

c. $x^{1/3}$

d. $x^{-2/3}$

LIVEWORKSHEETS