Mathematics: Lesson09

Assessment

Evaluate

$$8^{\frac{1}{3}}$$

A. 1

B. 2

C. 3

D. 4

Evaluate

$$32^{\frac{4}{5}}$$

A. 2

B. 4

C. 8

D. 16

Evaluate

$$25^{-\frac{1}{2}}$$

A. 5

B. −5

C. $\dfrac{1}{5}$

D. $\dfrac{1}{125}$

Evaluate

$$(-8)^{\frac{4}{3}}$$

A. $\dfrac{1}{16}$

B. -16

C. 16

D. undefined

Simplify

$$a^{\frac{1}{2}} \times a^{\frac{3}{2}}$$

A. $a^{\frac{3}{4}}$

B. $a^{\frac{4}{3}}$

C. a

D. a^2

Simplify

$$\frac{a^3 \times a^{\frac{1}{4}}}{a^{\frac{3}{2}} \times a^{-\frac{5}{4}}}$$

A. $a^3 \cdot a^{\frac{1}{2}}$

B. a^3

C. $a^2 \cdot a^{\frac{1}{2}}$

D. a^2

Is the domain of

$$x^{-\frac{4}{5}}$$

A. $\{x|x \geq 0\}$?

B. the set of all real numbers?

C. neither A. nor B.?

Evaluate

$$\left(-\frac{1}{64}\right)^{-\frac{1}{3}}$$

A. -4

B. $-\dfrac{1}{4}$

C. -8

D. $-\dfrac{1}{8}$

Simplify

$$\left(\frac{x^{\frac{1}{2}} y^3}{y^{\frac{3}{2}}} \right)^3$$

A. $\dfrac{x^{\frac{3}{2}}}{y^{\frac{9}{2}}}$

B. $x^{\frac{3}{2}}$

C. $x^{\frac{3}{2}} y^{\frac{9}{2}}$

D. $x^{\frac{1}{2}} y^{\frac{9}{2}}$

Which of these is correct:

A. $a^{-\frac{1}{2}} = -\frac{1}{a^2}$

B. $a^{-\frac{1}{2}} = \frac{1}{\sqrt{a}}$

C. $a^{-\frac{1}{2}} = -\sqrt{a}$

Simplify

$$\frac{x^{\frac{1}{4}}x^{\frac{1}{2}}-\left(x^{-\frac{1}{4}}\right)^2}{x^{\frac{1}{2}}x^{-\frac{3}{2}}}$$

A. $x^{\frac{7}{4}}-x^{\frac{3}{2}}$

B. $x^{\frac{3}{2}}\left(x^{\frac{1}{4}}-1\right)$

C. $x^{\frac{7}{8}}-x^{\frac{1}{4}}$

D. $x^{\frac{7}{4}}-x^{\frac{1}{2}}$

Perform the indicated operation

$$\frac{mn^{-2}p^{-4}}{(2p^{-2})^3}\left(\frac{n^2}{m^4}\right)^{-\frac{1}{2}}$$

A. $\dfrac{p^2}{8mn}$

B. $\dfrac{m^3p^2}{8n^3}$

C. $\dfrac{m^3}{8p^{10}n^3}$

D. $\dfrac{m^2p}{8n^4}$

Simplify and write in exponential form

$$\sqrt[5]{32x^4yz^5}$$

A. $32^{\frac{1}{5}}x^{\frac{5}{4}}y^{\frac{1}{5}}z$

B. $32^{\frac{1}{5}}x^{\frac{5}{4}}y^{\frac{1}{5}}z^{10}$

C. $2x^{\frac{4}{5}}y^{\frac{1}{5}}z$

D. $2x^{\frac{5}{4}}y^5z$