

$$2. (81^{\frac{1}{4}})^4$$

$$(x^2)^3 = x^6$$

$$\textcircled{1} 81^1$$

$$\textcircled{2} (\sqrt[4]{81})^4 = 81$$

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$$\textcircled{12}$$

$$(8^2)^{\frac{1}{3}}$$

$$8^{2 \cdot \frac{1}{3}} = 8^{\frac{2}{3}} = (\sqrt[3]{8})^2 = 2^2 = 4$$

$$\sqrt[3]{8^2} = \sqrt[3]{64}$$

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(10) $x^{\frac{1}{2}} \cdot x^{\frac{1}{3}} \Rightarrow \sqrt{x} \cdot \sqrt[3]{x}$ $x^2 \cdot x^3 = x^5$

$x^{\frac{1}{2} + \frac{1}{3}}$

$x^{\frac{3}{6} + \frac{2}{6}} = x^{\frac{5}{6}}$

$\sqrt[6]{x^5}$

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(14) $\left(\frac{1}{16}\right)^{\frac{1}{4}} = \frac{1}{2}$

(18) $\frac{12y^{\frac{1}{3}}}{4y^{\frac{1}{2}}} = 3y^{\frac{1}{3} - \frac{1}{2}}$

$3y^{\frac{2}{6} - \frac{3}{6}}$

$3y^{-\frac{1}{6}} = \frac{3}{y^{\frac{1}{6}}}$

$\frac{3}{\sqrt[6]{y}} \cdot \frac{\sqrt[6]{y^5}}{\sqrt[6]{y^5}} = \frac{3\sqrt[6]{y^5}}{y}$

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$$\text{Ex 5 } (16y^{-8})^{-3/4}$$

$$16^{-3/4} y^6$$

$$\frac{y^6}{16^{3/4}} = \frac{y^6}{(\sqrt[4]{16})^3}$$

$$= \frac{y^6}{8}$$

$$\text{Ex 5a } (8x^{15})^{-2/3}$$

$$\textcircled{1} 8^{-2/3} x^{-10}$$

$$\frac{1}{8^{2/3} x^{10}}$$

$$(\sqrt[3]{8})^{-2} x^{-10} = \boxed{\frac{1}{4x^{10}}}$$

Mar 2-9:51 PM

$$\textcircled{1} (9x^4 y^{-2})^{1/2} = 9^{1/2} x^2 y^{-1} = \frac{3x^2}{y}$$

$$\textcircled{2} \frac{x^{4/7}}{x^{2/3}} = x^{4/7 - 2/3} = x^{\frac{12}{21} - \frac{14}{21}}$$

$$x^{-2/21} = \frac{1}{x^{2/21}}$$

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(28)

$$r = \left(\frac{a}{p}\right)^{\frac{1}{2}} - 1$$
$$r = \left(\frac{3600}{2700}\right)^{\frac{1}{3}} - 1$$
$$r = \left(\frac{36}{27}\right)^{\frac{1}{3}} - 1$$
$$= \frac{\sqrt[3]{36}}{3} - 1$$
$$= .10064$$
$$10.064\%$$

36^(1/3)

..

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(10) $x^{\frac{1}{2}} \cdot x^{\frac{1}{3}}$

$x^{\frac{1}{2} + \frac{1}{3}}$

$x^{\frac{3}{6} + \frac{2}{6}}$

$\cdot x^{\frac{5}{6}}$

$\cdot \sqrt[6]{x^5}$

$x^2 \cdot x^3 = x^5$
 Bases
 Same
 ADD

 $(x^3)^5 = x^{15}$

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#26 *file*

$(3x^{\frac{1}{3}})(7x^{\frac{2}{5}})$

$21x^{\frac{1}{3} + \frac{2}{5}}$

$21x^{\frac{5}{15} + \frac{6}{15}}$

$21x^{\frac{11}{15}}$

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$$2y^{3/2}$$

$$2\sqrt{y^3} = 2y\sqrt{y}$$

(20)

$$\left(y^{2/3}\right)^{-9}$$

$$y^{-6} = \frac{1}{y^6}$$

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(18)

$$\frac{12y^{1/3}}{4y^{1/2}}$$

$$3y^{\frac{1}{3} - \frac{1}{2}}$$

$$3y^{\frac{2}{6} - \frac{3}{6}}$$

$$3y^{-1/6}$$

$$\frac{3}{y^{1/6}} = \frac{3}{\sqrt[6]{y}} \cdot \frac{\sqrt[6]{y^5}}{\sqrt[6]{y^5}}$$

$$= \frac{3\sqrt[6]{y^5}}{y}$$

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HW Due Friday

7.4 HW

2-46 Evens

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