ACT Warm Up Questions

1) If $a^2=49$ and $b^2=64$, which of the following CANNOT be a value of a+b?

F. -15 $7 + 8$ $-7 - 8$

G. -1

H. 1

J. 25

K.15

2) Which of the following expressions is equivalent to $(-2x^5y^2)^4$?

A. $-16x^{20}y^8$

B. $8x^{20}y^9$

C. $-8x^9y^6$

D. $16x^9y^6$

E. $16x^{20}y^8$

3) If $(5/3)^x = \sqrt{(3/5)^5}$, then what is the value of x?

$\left(\frac{5}{3}\right)^{-\frac{5}{3}}$ $\left(\frac{3}{5}\right)^{\frac{5}{2}}$

A. -2 $\left(\frac{3}{5}\right)^{\frac{5}{2}}$

B. -5/2

C. -2/5

D. 2/5

E. 5/2

HW Questions

From the book?

$\boxed{\begin{array}{l} \cancel{8} \quad \cancel{\sout{13}} \\ \quad 17 \\ \cancel{9} \\ \quad 51 \\ 84 \end{array}}$

(17) $\sqrt[4]{8} \cdot \sqrt[4]{8}$

$\sqrt[4]{64}$

$\sqrt[4]{16} \cdot \sqrt[4]{4}$

$2\sqrt[4]{4}$

(49) $\left(\sqrt[3]{x^2} \cdot \sqrt[6]{x^4} \right)^{-3}$

$\left(x^{\frac{2}{3}} \cdot x^{\frac{4}{6}} \right)^{-3}$

$x^{-\frac{6}{3}} \cdot x^{-\frac{12}{6}}$

$x^{-2} \cdot x^{-2}$

x^{-4}

$\boxed{\dfrac{1}{x^4}}$

(51) $\dfrac{x^{\frac{6}{4}}}{x^{3/4}} = x^{3/4}$

(84) $V = 8.8 \sqrt{\dfrac{L}{A}}$

$V = 8.8 \sqrt{\dfrac{1.4 \times 10^7}{5.5 \times 10^3}}$

<u>Review</u>

1.) Solve.

$(x-4)^{3/2} -9=-1$

$(x-4)^{3/2} = (8)^{2/3}$ ^(2/3)

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

$x-4 = 4$
$+4 \quad +4$
$x = 8$

3.) Simplify.

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

$\frac{1}{3}-\frac{2}{3} = -\frac{1}{3}$

$-\frac{1}{3}-\frac{4}{3} = -\frac{5}{3}$

$x^{-1/3} \, y^{-\frac{5}{3}}$

$$\frac{1}{x^{1/3} \, y^{5/3}}$$

2) $\dfrac{3^{\frac{1}{1}}}{3^{1/4}}$

$3^{3/4}$

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

① $\sqrt[4]{8} \cdot \sqrt[4]{2}$

$\sqrt[4]{16}$

②

② $\dfrac{\sqrt[3]{54}}{\sqrt[3]{2}}$　$\sqrt[3]{\frac{54}{2}}$　$\sqrt[3]{27}$

③

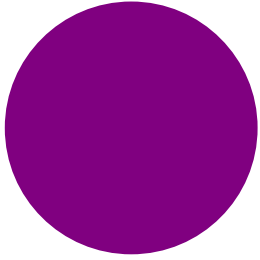③ $\sqrt{6x^1y^2} \cdot \sqrt{12x^3y^4}$

$\sqrt{72x^3y^6}$

$6x^1y^3\sqrt{2x}$

$\sqrt{72}$

$\sqrt{36} \cdot \sqrt{2}$

④ $\sqrt{4x^2y^{-1}} \cdot \sqrt{5x^3y7}$

$\sqrt{20x^5y^6}$

$\sqrt{4}\ \sqrt{5}$

$2x^2y^3\sqrt{5x^1}$

DLT

Extra Credit

For all nonzero x, y, and z, which of the following is equivalent to $\dfrac{-24x^2y^3z^5}{3xyz^3}$?

A. $-8xyz$

B. $-8xy^2z^2$

C. $8xy^2z^2$

D. $-8x^2y^2z^2$

E. $-21xy^2z^2$

<u>Goals</u>
1) What is your goal on the next test?

2) What is your goal in this class by the end of the semester?

<u>Work</u>
3) How are you going to achieve your goals?

Add and subtract expressions involving variables

a. $\dfrac{1}{5}\sqrt{w} + \dfrac{3}{5}\sqrt{w}$

b. $3xy^{1/4} - 8xy^{1/4}$

c. $12\sqrt[3]{2z^5} - z\sqrt[3]{54z^2}$

Add and subtract like radicals and roots

a. $\sqrt[4]{10} + 7\sqrt[4]{10}$

$8 \sqrt[4]{10}$

b. $2(8^{1/5}) + 10(8^{1/5})$

$12(8^{1/5})$

c. $\sqrt[3]{54} - \sqrt[3]{2}$

$\sqrt[3]{27}\sqrt[3]{2} \quad - \sqrt[3]{2}$

$3\sqrt[3]{2} - 1\sqrt[3]{2}$

$2\sqrt[3]{2}$

Add and subtract like radicals and roots   TOYO

a. $\sqrt{18} + 5\sqrt{2}$

$\sqrt{9}\ \sqrt{2} + 5\sqrt{2}$

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

$8\sqrt{2}$

b. $\sqrt[3]{5} - \sqrt[3]{40}$

$1\sqrt[3]{5} - \sqrt[3]{8}\ \sqrt[3]{5}$

$1\sqrt[3]{5} - 2\sqrt[3]{5}$

$-1\sqrt[3]{5}$

Add and subtract expressions involving variables

<u>TOYO</u>

a. $\sqrt{9w^5} - w\sqrt{w^3}$

b. $y\sqrt[4]{32x^6} + \sqrt[4]{162x^2y^4}$

$\sqrt[4]{16} \cdot \sqrt[4]{2} \qquad \sqrt[4]{81} \cdot \sqrt[4]{2}$

$2y\,x\,\sqrt[4]{2x^2} + 3\,y\,\sqrt[4]{2x^2}$

HW Questions

From the worksheet?

$\sqrt[3]{64}\ \sqrt[3]{2}$

(16) $5\ \sqrt[5]{7} - 7\ \sqrt[5]{7}$

$-2\ \sqrt[5]{7}$

(17) $\sqrt[3]{2} + 2\sqrt[3]{128}$

$\sqrt[3]{2} + 4 \cdot 2\ \sqrt[3]{2}$

$\sqrt[3]{2} + 8\ \sqrt[3]{2}$

$9\ \sqrt[3]{2}$

$*$ $\sqrt[3]{2} - \sqrt[3]{32}$

$\sqrt[3]{2} - \sqrt[3]{4}\ \boxed{\sqrt[3]{8}}$

$\boxed{\sqrt[3]{2} - 2\ \sqrt[3]{4}}$

$\begin{array}{c} 20 \\ 25 \end{array}$

(20) $\dfrac{324^{1/4}}{4^{-1/4}}$ $324^{1/4} \cdot 4^{1/4}$

$(1296)^{1/4} = 6$

(25) $\sqrt[3]{16x^7y^2} \ \sqrt[3]{6xy^5}$ $\sqrt[3]{8} \cdot \sqrt[3]{12}$

$\sqrt[3]{96x^8y^7}$

$\boxed{2\,x^2y^2\sqrt[3]{12x^2y^1}}$

DLT #2   Extra Credit

What is the slope of the line x+2y=2?

⭐ <u>Quick Check</u> ⭐

*Evaluation flashcards at your table.

⭐ Mad Minute Practice

　　　*Let's look at few

　　　　-negative exponents

　　　　-negative inside the parentheses

　　　　-negative without parentheses

HOMEWORK

⭐Page 424 # 32-50, 60-64

⭐ Mad Minute Quiz next class!