Pop Quiz! (Formative)

You need a pencil & an eraser. NO calculator.



Write as a single power with positive exponents, then evaluate.

which as a single power with positive exponents, their evaluate:

a)
$$(2^5)^2(2^{-6})$$
 b) $((x^3)^0)^5$ c) 7^{-2} d) $5^3(5^{-4})$

$$= 2^{(0^{-6})} = 2^{$$



Write in radical form and then evaluate.

a)
$$16^{\frac{1}{4}}$$

$$= \left(\frac{1}{4} \right)$$

$$= \frac{1}{4}$$

b)
$$9^{\frac{3}{2}}$$
 $-(\sqrt{9})^3$
 -3^3



Write 49³ as a power with a base of 7. Do not evaluate.

$$= (7^{2})^{3}$$

$$= 7^{6}$$

Date:	
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Today's Learning Goal(s):

By the end of the class, I will be able to:

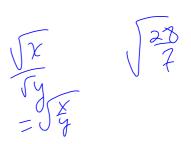
a) simplify algebraic expressions containing rational exponents and radicals.

Last day's work: **READ p.228** pp. 229-230 #(1 – 6)ace, 8 – 11, 12ace, 14 [16]

3c 14e 9 6e 4cdb 10e 5e 3. Write as a single power.

c)
$$(-11)^{2}(-11)^{\frac{3}{4}}$$

= $(-11)^{2}(-11)^{\frac{3}{4}}$
= $(-11)^{\frac{3}{4}}$
= $(-11)^{\frac{3}{4}}$
= $(-11)^{\frac{11}{4}}$



4. Write as a single power, then evaluate. Express answers in rational form.

a)
$$\sqrt{5}\sqrt{5}$$
 b) $\frac{\sqrt[3]{-16}}{\sqrt[3]{2}}$ c) $\frac{\sqrt{28}\sqrt{4}}{\sqrt{7}}$ d)
$$=\sqrt[3]{-\frac{6}{2}} = \sqrt{\frac{112}{7}}$$

$$=\sqrt[3]{-8} = \sqrt[4]{6}$$

$$=\sqrt[4]{6}$$

$$=\sqrt[4]{6$$

$$\frac{\sqrt[4]{18} (\sqrt[4]{9})}{\sqrt[4]{2}} = \sqrt[4]{\frac{1}{3}}, \sqrt[4]{9}$$

$$= \sqrt[4]{\frac{1}$$

5. Evaluate.

a)
$$49^{\frac{1}{2}} + 16^{\frac{1}{2}}$$

b)
$$27^{\frac{2}{3}} - 81^{\frac{3}{4}}$$

d)
$$128^{-\frac{5}{7}} - 16^{0.75}$$

e)
$$16^{\frac{3}{2}} + 16^{-0.5} + 8 - 27^{\frac{2}{3}}$$

= $(\sqrt[3]{16})^3 + 16^{\frac{7}{2}} + 8 - (\sqrt[3]{27})^3$
= $4^3 + \sqrt{16} + 8 - (\sqrt[3]{3})^3$
= $64 + \sqrt[4]{4} + 8 - 9$
= $63 + \sqrt[4]{3}$

6. Write as a single power, then evaluate. Express answers in rational form.

a)
$$4^{\frac{1}{5}}(4^{0.3})$$

c)
$$\frac{64^{\frac{4}{3}}}{64}$$

e)
$$\frac{(16^{-2.5})^{-0.2}}{16^{\frac{3}{4}}}$$

$$= \frac{(16^{-2.5})^{-0.2}}{16^{\frac{3}{4}}}$$

9. Use your calculator to determine the values of $27^{\frac{4}{3}}$ and $27^{1.3333}$. Compare the two answers. What do you notice?

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10. Explain why $(-100)^{0.2}$ is possible to evaluate while $(-100)^{0.5}$ is not.

C - (-(00)) You can only have a negative radicand if the type of root is odd, otherwise it is no Real solution?

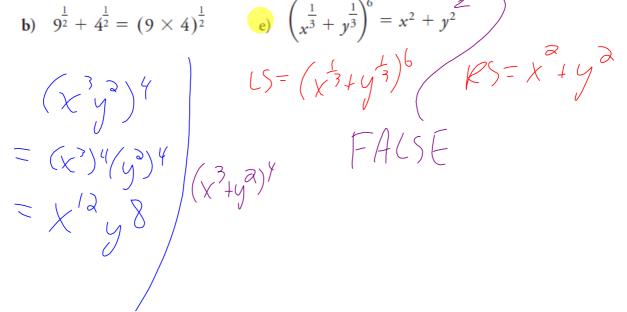
14. State whether each expression is true or false

a)
$$9^{\frac{1}{2}} + 4^{\frac{1}{2}} = (9+4)^{\frac{1}{2}}$$
 d) $\left(\frac{1}{a} \times \frac{1}{b}\right)^{-1} = ab$

$$\mathbf{d}) \ \left(\frac{1}{a} \times \frac{1}{b}\right)^{-1} = ab$$

b)
$$9^{\frac{1}{2}} + 4^{\frac{1}{2}} = (9 \times 4)^{\frac{1}{2}}$$

b)
$$9^{\frac{1}{2}} + 4^{\frac{1}{2}} = (9 \times 4)^{\frac{1}{2}}$$
 e) $\left(x^{\frac{1}{3}} + y^{\frac{1}{3}}\right)^6 = x^2 + y^2$

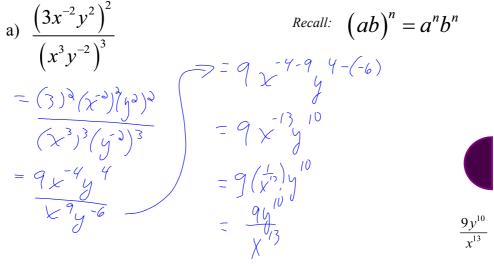


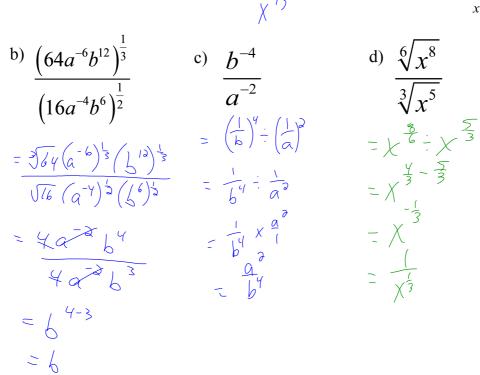
$$LS = \left(\chi^{\frac{1}{3}} + y^{\frac{1}{3}}\right)^{\frac{1}{3}}$$

4.4 Simplifying Algebraic Expressions Date: 04-24/19 **Involving Exponents**



Ex.1 Simplify. Express answers inrational form with positive exponents.





b



$$\frac{a^2}{b^4}$$

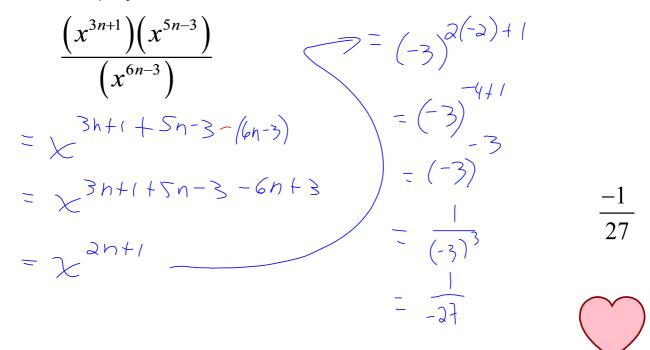


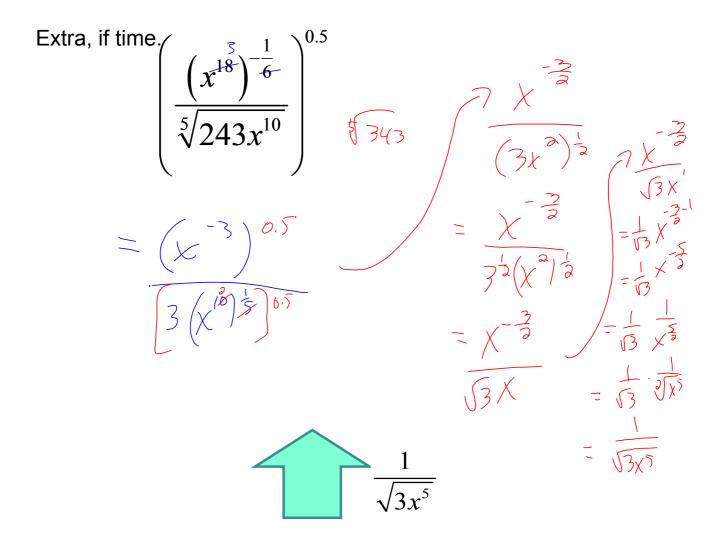
Simplify.

$$\frac{a^{2}b^{-1}c^{-3}d^{5}}{e^{-6}f^{2}g^{-1}h^{-7}}$$

$$= \frac{a^{2}d^{5}e^{6}g^{1}h^{7}}{f^{3}h^{1}e^{3}g^{1}h^{7}}$$

Ex.2 Simplify and evaluate fo $\alpha = -3$ and n = -2.





Are there any Homework Questions you would like to see on the board?

Last day's work: READ p.228

pp. 229-230 #(1 – 6)ace, 8 – 11, 12ace, 14 [16]

The mid-chapter review is good practice for tomorrow's quiz!

SWYK Next Class

Today's Homework Practice includes: pp. 235-237 #(1-2)ace, 3, (4-9)ace [14] Review p. 239