

8.2 Apply Properties of Rational Exponents

Multiplication Rule		
Power to a Power		
Product to a Power		
Negative Exponents		
Quotient Rule		
Quotient to a Power		
Combine Like Terms		

Ex 1:

Ex 2:

Ex 3:

Ex 4:

Simplest Form of Radicals:

Properties of Radicals

Product Property of Radicals

Quotient Property of Radicals

Ex 5:

Ex 6:

Combine Like Radicals

Ex 7:

Ex 8:

Ex 9:

Ex 10:

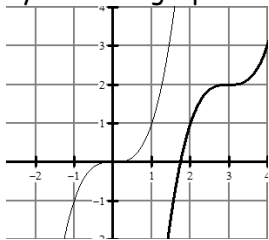
Ex 11:

Try These:

Summarize your notes:

Algebra Skillz

Below, the parent function $f(x) = x^3$ is represented by the thin graph.



Write the equation of the function in bold.

4) $\frac{5}{\sqrt{20}}$

3) $\frac{\sqrt{10}}{3\sqrt{8}}$

5) Factor:
 $5x^3 - 80x^2 + 315x$

6) Factor and solve.
 $-3n^2 + 9n + 14 = 5 - 5n^2$

8.2 Practice Problems

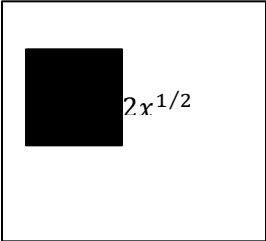
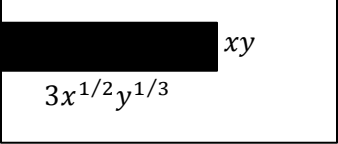
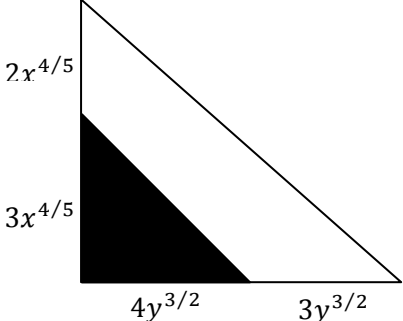
Directions: Simplify			
1) $5^{3/2} \cdot 5^{1/2}$	2) $\left(\frac{3^3}{7^3}\right)^{-1/3}$	3) $\frac{9}{9^{-4/5}}$	4) $(2^{1/3} \cdot 5^{1/6})^6$
5) $2x^{1/2} \cdot 4x^{3/4}$	6) $x^{1/4} \cdot x^{1/3}$	7) $\frac{2}{x^{-1/4}}$	8) $\frac{64^{5/9} \cdot 64^{2/9}}{4^{3/4}}$
9) $\left(\frac{x^{15}}{y^6}\right)^{1/3}$	10) $5x^{2/3} + (x^{5/4})^{8/15}$	11) $(64y^8)^{1/2}$	12) $(4x^2)^{3/2} + (x^{15/2})^{2/5}$
DIRECTIONS: Simplify.			
13) $7\sqrt[3]{125}$	14) $-4\sqrt[4]{405}$	15) $-\sqrt[3]{25} \cdot 4\sqrt[3]{-20}$	16) $-\sqrt[3]{10} \cdot -4\sqrt[3]{100}$
17) $-3\sqrt[6]{2} - \sqrt[6]{128}$	18) $-3\sqrt[4]{4} - 2\sqrt[4]{64}$	19) $-3\sqrt[5]{160} + 2\sqrt[5]{5}$	20) $2\sqrt[4]{96} - \sqrt[4]{6}$
21) $\sqrt[6]{384n^5}$	22) $\sqrt[3]{-216n^4}$	23) $\sqrt[3]{512n^4}$	24) $-7\sqrt[3]{108x^7y^5}$

8.2 Application and Extension

1) Simplify: $7x^{7/3} + (x^{2/5})^{7/3}$

2) Simplify: $2\sqrt[4]{405} + 2\sqrt[4]{80}$

3) Geometric Probability: A point is randomly selected on an object, to find the probability that the point lies in the shaded region use the formula $p(\text{shaded region}) = \frac{\text{area of shaded region}}{\text{area of the outside object}}$.

Square: $A = s^2$	Rectangle: $A = l \times w$	Triangle: $A = \frac{1}{2} b \times h$
		
Area of Shaded Region:	Area of Shaded Region:	Area of Shaded Region:
Area of Outside Region:	Area of Outside Region:	Area of Outside Region:
P(shaded region):	P(shaded region):	P(shaded region):

SAT PREP Below are sample SAT questions. The SAT is the main standardized test that colleges look at for admission. One is multiple choices; the other is free response where you must grid in your answer. Blow it up.

MULTIPLE CHOICE	GRID IN
<p>If n and p are positive integers and $3^{n/p} = \sqrt[3]{81}$, then the product of n and p is:</p> <p>(A) -1 (B) 0 (C) 4 (D) 8 (E) 12</p>	<p>If $p^m \cdot p^{-5} = p^{10}$, and $(p^{-3})^n = p^{-21}$, what is the value of $m-n$?</p> 