

Daily Agenda

Learning Target:
I can simplify radical expressions.

<p>Homework 6.1 Worksheet</p>	<p>Assessments 6.1 to 6.2 Quiz 12/7 Unit 6 Test 12/13 Skills Test 12/14 Final Exam 12/20</p>
--	---

Perfection is not attainable, but if we chase perfection we can catch it.
-Vince Lombardi

Nov 15-8:24 PM

List the first 20 perfect squares

1, 4, 9, 16, 25, 36, 49, 64, 81, 100
121, 144, 169, 196, 225, 256, 289,
324, 361, 400

List the first 10 perfect cubes

1, 8, 27, 64, 125, 216, 343, 512,
729, 1000

Dec 2-7:41 AM

6.1 Simplifying Radical Expressions

$$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$$

index \rightarrow

$$\sqrt[a]{x^b} = x^{b/a}$$

$$\sqrt[3]{x} = x^{1/3}$$

Nov 15-8:30 PM

Transform the expression to simple radical form.

$\sqrt{128}$ $\sqrt{64 \cdot 2}$ $8\sqrt{2}$	$\sqrt{128}$ $\sqrt{2^7}$ $\sqrt[3]{2^6 \cdot 2^1}$ $2^{6/2} \cdot 2^{1/2}$ $2^3 \sqrt{2} = 8\sqrt{2}$
--	--

Jan 27-6:50 AM

Transform the expression to simple radical form.

$$\sqrt{128} + \sqrt{18}$$

$$\sqrt{64 \cdot 2} + \sqrt{9 \cdot 2}$$

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

$$11\sqrt{2}$$

Jan 27-6:50 AM

Transform the expression to simple radical form.

$$\frac{6}{\sqrt{12}} = \frac{6 \cdot \sqrt{3}}{2\sqrt{3} \cdot \sqrt{3}} = \frac{6\sqrt{3}}{2 \cdot 3}$$

$$= \frac{6\sqrt{3}}{2 \cdot 3} = \sqrt{3}$$

Jan 27-6:50 AM

Transform the expression to simple radical form.

$$\begin{aligned}
 &(\sqrt{6}+3)(\sqrt{10}-\sqrt{3}) \\
 &\sqrt{60}-\sqrt{18}+3\sqrt{10}-3\sqrt{3} \\
 &\sqrt{4\cdot 15}-\sqrt{9\cdot 2} \\
 &2\sqrt{15}-3\sqrt{2}+3\sqrt{10}-3\sqrt{3}
 \end{aligned}$$

Jan 27-6:50 AM

Transform the expression to simple radical form.

$$\begin{aligned}
 \frac{5}{\sqrt[3]{625}} &= \frac{5}{\sqrt[3]{125}\sqrt[3]{5}} = \frac{5}{5\sqrt[3]{5}} = \frac{1}{\sqrt[3]{5}} \\
 \frac{1}{\sqrt[3]{5}} &\cdot \frac{\sqrt[3]{25}}{\sqrt[3]{25}} = \frac{\sqrt[3]{25}}{\sqrt[3]{125}} = \frac{\sqrt[3]{25}}{5}
 \end{aligned}$$

Jan 27-6:50 AM

$$\begin{aligned}
 \frac{1}{\sqrt[3]{81}} &= \frac{1}{\sqrt[3]{9^2}} \cdot \frac{\sqrt[3]{9}}{\sqrt[3]{9}} = \frac{\sqrt[3]{9}}{\sqrt[3]{9^3}} = \frac{\sqrt[3]{9}}{9}
 \end{aligned}$$

$\sqrt[3]{9^3} = 9^{3/3} = 9^1$

Answer

Dec 2-11:31 AM

Transform the expression to simple radical form.

$$\begin{aligned}
 \frac{12}{\sqrt{2}+\sqrt{5}} \cdot \frac{\sqrt{2}-\sqrt{5}}{\sqrt{2}-\sqrt{5}} &= \frac{12\sqrt{2}-12\sqrt{5}}{2-5} \\
 \text{multiply} & \\
 \text{by the} & \\
 \text{conjugate} & \\
 &= \frac{12\sqrt{2}-12\sqrt{5}}{-3} \\
 &= -4\sqrt{2}+4\sqrt{5}
 \end{aligned}$$

Jan 27-6:50 AM

In closing:

With your table, summarize how we simplify radical expressions

Jan 20-8:06 AM