

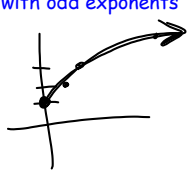
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Intro to 11-6 - Simplifying Radicals.....#

Objective:
Simplify radical expressions with odd exponents

1. $\sqrt{2x+1}$

x	f(x)
0	1
1/2	2
1	3
2	5
8	



2. $\sqrt{60}$
 $\sqrt{4 \cdot 15}$
 $2\sqrt{15}$

3. $\sqrt{8x^2}$
 $9x$

4. $-3\sqrt{18x^{12}}$
 $-3\sqrt{9 \cdot 2 \cdot x^{12}}$
 $-3 \cdot 3 \cdot x^4 \sqrt{2}$
 $-9x^4\sqrt{2}$

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Find the domain: (left page)

$f(x) = \sqrt{2-x}$

$$\begin{matrix} 2-x & \geq & 0 \\ +x & & +x \end{matrix}$$

$$2 \geq x$$

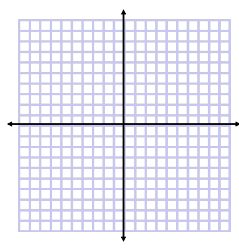
$$x \leq 2$$

$f(x) = \sqrt{8x-5}$

$$\begin{matrix} 8x & \geq & 0 \\ \frac{8x}{8} & & \frac{0}{8} \end{matrix}$$

$$x \geq 0$$

Graph: $f(x) = \sqrt{x+2}$



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Complete the following review problems: (left page)

$\sqrt{63}$ $-\sqrt{132}$ $2\sqrt{56}$

$\sqrt{64x^2}$
 $8x$

$\sqrt{90x^{12}y^{30}}$
 $\sqrt{9 \cdot 10 \cdot x^{12} \cdot y^{30}}$
 $3x^6y^{15}\sqrt{10}$

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When dealing with an odd exponent split it into an even and an odd.

$\sqrt{x^3}$
 $\sqrt{x^2 \cdot x}$
 $x\sqrt{x}$

$\sqrt{8x^3}$
 $\sqrt{4 \cdot 2 \cdot x^3}$
 $2x\sqrt{2x}$

$-\sqrt{27x^{13}}$
 $-\sqrt{9 \cdot 3 \cdot x^{12} \cdot x}$
 $-3x^6\sqrt{3x}$

$3\sqrt{72y^5z^{23}}$
 $3\sqrt{36 \cdot 2 \cdot y^4 \cdot y \cdot z^{22} \cdot z}$
 $3 \cdot 6$
 $18y^2z^{11}\sqrt{2yz}$

Now you try: (left page)

$\sqrt{16x^3}$
 $\sqrt{16 \cdot x^2 \cdot x}$
 $4x\sqrt{x}$

$\sqrt{54x^7y}$
 $\sqrt{9 \cdot 6 \cdot x^6 \cdot x \cdot y}$
 $3x^3\sqrt{6xy}$

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$12\sqrt{21m^7n^4}$ $\frac{1}{2}\sqrt{45h^{11}}$

$-4\sqrt{32wx^4}$ $5\sqrt{36f^5g^{20}}$

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Homework:
worksheet

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