C11 - 5.1 - Square/Cube Radicals Equations HW

Solve for x,

$x^2 = 4$ $x^2 = 9$ $x^2 = 1$ $x^2 = 16$

$x^2 = 25$ $x^2 = 0$ $x^2 = -9$ $x^2 = -100$

$x^3 = 27$ $x^3 = 8$ $x^3 = 64$ $x^3 = 125$

$x^3 = -8$ $x^3 = -27$ $x^3 = -64$ $x^3 = -125$

$x^4 = 16$ $x^5 = 243$ $x^7 = 128$ $x^8 = 1$

$x^4 = -16$ $x^5 = -243$ $x^7 = -128$ $x^8 = -1$

$x^2 = 3$ $x^3 = 7$ $x^4 = -5$ $x^5 = -32$

C11 - 5.1 - Simplify Radicals Variables HW

Simplify. Variables can be either positive or negative.

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

$\sqrt{9x^2}$ $\sqrt{x^6}$ $\sqrt{x^{10}}$ $\sqrt{4x^4}$

Simplify. Variables are positive

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

$\sqrt[3]{27}$ $\sqrt[3]{27x^3}$ $\sqrt[3]{-27x^3}$ $\sqrt[3]{-8x^3}$

$\sqrt[3]{x^6}$ $\sqrt[3]{x^5}$ $\sqrt[3]{-x^7}$ $\sqrt[5]{x^6y^3}$

C11 - 5.1 - Simplify Radicals Factoring Notes

Simplify. Variables are positive. Possibly Factor.

$\sqrt{(x-2)^2}$ $\sqrt{(x+5)^2}$ $\sqrt{(x-.01)^2}$ $\sqrt{(Only\ This!)^2}$

$\sqrt[3]{(x-3)^3}$ $\sqrt[7]{(x-3)^7}$ $\sqrt[99]{(x-3)^{99}}$ $\sqrt[5]{(x-3)^5}$

$\sqrt{(x+3)(x+3)}$ $\sqrt{x^2+6x+9}$ $\sqrt{x^2+2x+1}$ $\sqrt{x^2-4x+4}$

$\sqrt{x^4+2x^2+1}$ $\sqrt{(x-1)(x^2-1)}$

C11 - 5.1 - Entire to Mixed Radicals HW

Simplify

$\sqrt[2]{12}$ =

$2\sqrt[2]{18}$ =

$3\sqrt[2]{45}$ =

$\frac{1}{2}\sqrt[2]{28}$ =

$\frac{1}{5}\sqrt[2]{50}$ =

$\frac{1}{8}\sqrt[2]{20x^2}$ =

$\frac{\sqrt[2]{63}}{3}$

$\frac{\sqrt[2]{44}}{8}$

$\frac{3}{4}\sqrt[2]{24x^5}$ =

$\frac{2}{5}\sqrt[2]{54}$ =

$\frac{3}{5}\sqrt[2]{40}$ =

$\frac{1}{9}\sqrt[2]{250x^4}$ =

$3\sqrt[3]{24}$ =

$\frac{1}{9}\sqrt[3]{54x^3}$ =

$2\sqrt[3]{135}$ =

$\frac{1}{5}\sqrt[3]{250x^4}$ =

$\frac{3}{5}\sqrt[3]{40}$ =

$\frac{2}{7}\sqrt[3]{189x^7}$ =

$\frac{1}{2}\sqrt[3]{56}$ =

$\frac{1}{2}\sqrt[3]{686}$ =

$2/3\sqrt[3]{48}$ =

$\frac{5}{6}\sqrt[3]{162}$ =

$\frac{1}{4}\sqrt[3]{80}$ =

$\frac{1}{6}\sqrt[3]{112}$ =

C11 - 5.1 - Mixed to Entire Radicals HW

Simplify

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

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

$5x\sqrt[2]{2}$ =

$6\sqrt[2]{3}$ =

$4\sqrt[2]{5}$ =

$2x^2\sqrt[2]{7}$ =

$7\sqrt[2]{2x}$

$8\sqrt[2]{2}$

$4x\sqrt[2]{7x}$ =

$7\sqrt[2]{6}$ =

$8\sqrt[2]{5}$ =

$13x^2\sqrt[2]{3x}$ =

$2\sqrt[2]{99}$ =

$5\sqrt[2]{1000}$ =

$7\sqrt[2]{4}$ =

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

$7\sqrt[3]{6}$ =

$4xy\sqrt[3]{5xy}$ =

$1\sqrt[3]{686}$ =

$2\sqrt[3]{48}$ =

$3\sqrt[3]{12}$ =

$8\sqrt[3]{8}$ =

$5\sqrt[3]{12}$ =

C11 - 5.0 - Simplifying Radicals Decimals/Fractions HW

Simplify

$-\sqrt{16}$

$-\sqrt{9}$

$\sqrt{\frac{1}{16}}$

$\sqrt{\frac{1}{9}}$

$\sqrt{-9}$

$-\sqrt{-9}$

$\sqrt{.01}$

$\sqrt{.0625}$

$-\sqrt[4]{81}$

$\sqrt[3]{-27}$

$\sqrt[5]{-32}$

$\sqrt[3]{-0.125}$

C11 - 5.1 - Adding/Subtracting Radicals HW

Add or subtract the following radicals

$2\sqrt[2]{3} + 1\sqrt[2]{3} =$

$\sqrt[2]{5} + \sqrt[2]{5} =$

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

$5\sqrt[2]{7} + 5\sqrt[2]{3} =$

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

$6x\sqrt[2]{3} - 8x\sqrt[2]{3} =$

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

$-7\sqrt[2]{5} + 9\sqrt[2]{5} =$

$\sqrt[3]{7} + \sqrt[3]{7} =$

$5\sqrt[3]{7} + \sqrt[3]{7} =$

$4\sqrt[3]{5x} - 9\sqrt[3]{5x} =$

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

Simplify and Add or subtract the following radicals

$\sqrt[2]{12} + 2\sqrt[2]{3} =$

$2\sqrt[2]{12} + 1\sqrt[2]{75} =$

$2\sqrt[2]{18} - 4 + 5\sqrt[2]{50} =$

$-7\sqrt[2]{20} - 5\sqrt[2]{45} =$

$8\sqrt[2]{44} + 3 + 6\sqrt[2]{99} - 1 =$

$7\sqrt[2]{28} + 3\sqrt[2]{63} - 2 =$

$5 + 4\sqrt[2]{20} + 1 - 5\sqrt[2]{125} + 6 =$

$2\sqrt[2]{12} + 1\sqrt[2]{20} + 1 =$

$2\sqrt[2]{28} + 1\sqrt[2]{20} + 2 =$

C11 - 5.2 - Multiplying Radicals HW

Multiply *the following radicals*

$7\sqrt{3} \times 2\sqrt{5} =$

$2\sqrt{7} \times 3\sqrt{6} =$

$10\sqrt{5x} \times 3\sqrt{7} =$

$\sqrt{3} \times \sqrt{5} =$

$7x\sqrt{3} \times 2x\sqrt{5} =$

$2\sqrt{7x^2} \times 3\sqrt{6x} =$

$10\sqrt{5x} \times 3\sqrt{7} =$

$x^3\sqrt{3x} \times x\sqrt{5x^5} =$

$3 \times \sqrt{5} =$

$\sqrt{5} \times 3 =$

$2\sqrt{7} \times 2 =$

$9 \times 3\sqrt{2} =$

$(\sqrt{5})^2 =$

$(3\sqrt{2})^2 =$

$(-4\sqrt{2})^2 =$

$\left(-4\sqrt{(-2)^2}\right)^2 =$

$(\sqrt{x-1})^2 =$

$(2\sqrt{x-1})^2 =$

$(-3\sqrt{x+2})^2 =$

$7\sqrt[3]{3} \times 2\sqrt[3]{5} =$

$7x\sqrt[3]{3} \times 2x\sqrt[3]{5} =$

$\sqrt[3]{7} \times 2 =$

$(3\sqrt[3]{2})^2 =$

$(2\sqrt[3]{x-1})^3 =$

$7\sqrt{3} \times 2\sqrt[3]{5} =$

C11 - 5.2 - Multiplying Simplifying Radicals HW

Multiply *the following radicals*

$7\sqrt{3} \times 2\sqrt{6} =$

$2\sqrt{8} \times 3\sqrt{6} =$

$10\sqrt{5x} \times 3\sqrt{7x} =$

$\sqrt{10} \times \sqrt{5} =$

$7x\sqrt{3} \times 2x\sqrt{9} =$

$2\sqrt{12x^2} \times 3\sqrt{6x} =$

$10\sqrt{14x} \times 3\sqrt{7} =$

$x^3\sqrt{3x} \times x\sqrt{21x^5} =$

$\left(\sqrt{5x}\right)^2 =$

$\left(3x\sqrt{2x}\right)^2 =$

$\left(-4\sqrt{2x^3}\right)^2 =$

$\left(-4\sqrt{(-2x^2)^2}\right)^2 =$

$7\sqrt[3]{3} \times 2\sqrt[3]{27} =$

$7x\sqrt[3]{15} \times 2x\sqrt[3]{5} =$

$\sqrt[3]{8} \times 2 =$

$\left(3x\sqrt[3]{8x^3}\right)^2 =$

C11 - 5.2 - Distribute/FOIL Radicals HW

Add or subtract the following radicals

$\sqrt{2}(\sqrt{5} + \sqrt{3}) =$

$2\sqrt{7}(3\sqrt{6} + \sqrt{2}) =$

$10\sqrt{5x} \times 3\sqrt{7} =$

$\sqrt{3} \times \sqrt{5} =$

$\sqrt{7}(2 + \sqrt{3x}) =$

$\sqrt[3]{7}(2x^2 + \sqrt[3]{3}) =$

$9x(\sqrt{2} + 1) =$

$(\sqrt{2} + \sqrt{5})(\sqrt{2} - \sqrt{5})$

$(\sqrt{7} + \sqrt{5})(\sqrt{7} - \sqrt{5})$

$(\sqrt{2x} + \sqrt{5})(\sqrt{2x} + \sqrt{5})$

$(\sqrt{7} + \sqrt{5x})^2$

$(\sqrt{2} + \sqrt{7})(\sqrt{3} + \sqrt{5})$

$(\sqrt{2} + \sqrt{3})(\sqrt{6} + \sqrt{2})$

$(\sqrt{x+2} + 1)(\sqrt{x+2} - 1)$

$(\sqrt{x-3} + 1)(\sqrt{x-3} + 4)$

C11 - 5.3 - Dividing Radicals HW

Simplify or Divide the following radicals

$\frac{\sqrt{10}}{\sqrt{5}} =$

$\frac{\sqrt{12}}{\sqrt{4}} =$

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

$\frac{\sqrt{3}}{\sqrt{7}} =$

$\frac{4\sqrt{6x^2}}{2\sqrt{3x}} =$

$\frac{8\sqrt{6x}}{4\sqrt{2x}} =$

$\frac{8\sqrt{10}}{3\sqrt{-2}} =$

$\frac{-8\sqrt{12}}{2\sqrt{6x}} =$

$\frac{2\sqrt{3x}}{4\sqrt{6}} =$

$\frac{6x\sqrt{2}}{12x^2\sqrt{6}} =$

$\frac{3x^2\sqrt{5}}{7x\sqrt{6}} =$

$\frac{2\sqrt{5}}{-8\sqrt{10}} =$

$\frac{8\sqrt{18}}{4\sqrt{2}} =$

$\frac{6\sqrt{32}}{3\sqrt{2}} =$

$\frac{6\sqrt{24}}{3\sqrt{3}} =$

$\frac{1\sqrt{45}}{6\sqrt{5}} =$

$\frac{9\sqrt{7}}{\sqrt{63}} =$

$\frac{5\sqrt{12}}{6\sqrt{54}} =$

C11 - 5.3 - Rationalize the denominator HW

Rationalize the Denominator by multiplying the top and the bottom by the roo1 on the bottom

$\frac{1}{\sqrt{3}}$ $\frac{1}{\sqrt{2}}$ $\frac{1}{\sqrt{5}}$ $\frac{2}{\sqrt{5}}$

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

$\frac{1}{2\sqrt{3}}$ $\frac{2}{2\sqrt{2}}$

$\frac{3}{\sqrt{3}+1}$ $\frac{7}{\sqrt{6}+1}$ $\frac{25}{\sqrt{6}+1}$

$\frac{7}{\sqrt{6}+\sqrt{3})}$ $\frac{2+\sqrt{3}}{\sqrt{6}+1}$ $\frac{1}{\sqrt{2}+1}$

C11 - 5.4 - Prep Radical Equations HW

Square the following

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

$3\sqrt{x}$ $-\sqrt{x}$ $\frac{\sqrt{x}}{2}$ $3\sqrt{3x}$

$\sqrt{x-1}$ $\sqrt{x+2}$ $\sqrt{2x-3}$ $\sqrt{4x+1}$

$2\sqrt{x+2}$

$x + 1$ $\sqrt{x} + \sqrt{5}$ $\sqrt{x} - 2$ $2 + \sqrt{x-2}$

$1 - \sqrt{2x}$ $3\sqrt{x} - 4$

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

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$\sqrt{x} = 5$

$\sqrt{x} = 6$

$\sqrt{x} - 2 = 6$

$\sqrt{x} + 8 = 6$

$\sqrt{x} = -4$

$\sqrt{x+2} = 5$

$\sqrt{x-1} = -5$

$\sqrt{x+3} - 2 = 5$

$\sqrt{x} - 8 = -6$

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

$\sqrt{3x-5} = 4$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$\sqrt{2x} = \sqrt{x+4}$

$\sqrt{x} = \sqrt{6-x}$

$2\sqrt{2x} = \sqrt{2x+3}$

$\sqrt{2x-5} = \sqrt{x-1}$

$\sqrt{x+5} = \sqrt{2x+4}$

$\sqrt{4x-6} = \sqrt{2x+4}$

$2\sqrt{x+4} = 4$

$3\sqrt{x+2} = 9$

$-5\sqrt{x-1} = 10$

$2\sqrt{x+3} - 3 = 5$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$2\sqrt{x-2} = \sqrt{x+1}$

$2\sqrt{x-5} = \sqrt{x+7}$

$2\sqrt{7x-6} = 3\sqrt{2x-8}$

$x = \sqrt{x+2}$

$x = \sqrt{2x+3}$

$x = \sqrt{4x-5}$

$2x = \sqrt{7x-3}$

$2x = \sqrt{-2x+1}$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly twice. Isolate a root 1st.

$$\sqrt{x-3} = \sqrt{x+2} - 1$$

$$\sqrt{x+11} - \sqrt{x-4} = 3$$

C11 - 5.4 - Restrictions HW

Find the Restriction, by setting underneath the root ≥ 0 *and solve*

$\sqrt{x-1}$ $\sqrt{x+2}$ $\sqrt{2x-3}$ $\sqrt{4x+1}$

$\sqrt{-x-1}$ $\sqrt{3-x}$ $\sqrt{-2x-3}$ $\sqrt{1-4x}$

$\sqrt{x^2-1}$ $\sqrt{4-x^2}$ $\sqrt{x^2+1}$ $\sqrt{x^2+4}$

$\sqrt{(x+1)(x-1)}$ $\sqrt{(x+2)(x-3)}$ $\sqrt{x^2+5x-6}$ $\sqrt{x^2-2x-3}$