

November 29, 2017

#11) $\left(\frac{1}{x^2-7x+10} + \frac{1}{x-2} = \frac{2}{x^2-7x+10} \right) (x-5)(x-2)$

$$\frac{1}{(x-5)(x-2)} + \frac{1}{x-2} = \frac{2}{(x-5)(x-2)}$$

$$1 + x - 5 = 2$$

$$x - 4 = 2$$

$$x = 6$$

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#8) $\left(\frac{1}{2m} + \frac{1}{4m^2} = \frac{1}{4m} \right) 4m^2 \leftarrow LCD$

$$2m + 1 = m$$

$$-m - 1 = -m - 1$$

$$m = -1$$

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8.1

$$\sqrt[n]{a^m} = a^{\frac{m}{n}}$$

Radical Form Exponential Form

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Numeric Perfect Roots

$$\sqrt{64} = 8; \text{ because } 8^2 = 64$$

$$\sqrt[3]{512} = 8; \text{ " } 8^3 = 512$$

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Perfect Roots

$$\sqrt{25} = 5$$

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

$$\sqrt{24} = \sqrt{4 \cdot 6}$$

$$= \sqrt{4} \cdot \sqrt{6}$$

$$= 2\sqrt{6}$$

exact!

$$\approx 4.89898$$

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Perfect Roots of Variables

$$\sqrt{x^2} = \sqrt{x \cdot x} = x^1 = x$$

$$\sqrt{x^4} = \sqrt{x \cdot x \cdot x \cdot x} = x \cdot x = x^2$$

$$\sqrt[3]{x^6} = \sqrt[3]{x \cdot x \cdot x \cdot x \cdot x \cdot x} = x \cdot x \cdot x = x^3$$

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

$$\sqrt[2]{x^{54}} = x^{27}$$

$\frac{54}{2} = 27$

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$$\sqrt[3]{x^3} = \sqrt[3]{x \cdot x \cdot x}$$

$$\frac{3}{3} = 1$$

$$= x^1$$

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Non Perfect Root

$$\sqrt{50x^3} = \sqrt{50} \cdot \sqrt{x^3}$$

$$= \sqrt{25 \cdot 2} \cdot \sqrt{x \cdot x \cdot x}$$

*Radical
* product of
50 · x³*

$$= \sqrt{25} \cdot \sqrt{2} \cdot \sqrt{x^2} \cdot \sqrt{x}$$

$$= 5\sqrt{2} \cdot x \cdot \sqrt{x}$$

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

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$$\# \sqrt{125m} = \sqrt{125} \cdot \sqrt{m}$$

$$= \sqrt{25 \cdot 5} \cdot \sqrt{m}$$

$$= \sqrt{25} \cdot \sqrt{5} \cdot \sqrt{m}$$

$$= 5\sqrt{5m}$$

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