June 15, 2015

8.2 #67 $\sqrt[6]{128} = \sqrt[6]{64 \cdot 2}$

$= \sqrt[6]{(2)^6 \cdot 2}$

$2\sqrt[6]{2}$

Jun 15-2:12 PM

June #3

#1) $\left(\frac{64}{125}\right)^{-2/3} = \frac{64^{-2/3}}{125^{-2/3}}$

$= \frac{125^{2/3}}{64^{2/3}}$

$= \frac{\left(\sqrt[3]{125}\right)^2}{\left(\sqrt[3]{64}\right)^2}$

$= \frac{5^2}{4^2}$

$= \left(\frac{5}{4}\right)^2 = \frac{25}{16}$

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8.2 #48)

$\sqrt[5]{x^{18} y^{15}} = \sqrt[5]{(x^3)^5 \cdot x^3 \cdot (y^3)^5}$

$= x^3 y^3 \sqrt[5]{x^3}$

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#9)

$\sqrt[5]{x^{10} y^{15} z^{20}}$

$\sqrt[5]{(x^2)^5 \cdot (y^3)^5 \cdot (z^4)^5}$

$x^2 y^3 z^4$

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#63)

$\sqrt[3]{324 x^{20} y^{17} z^{18}}$

$\sqrt[3]{27 \cdot 12 x^{20} y^{17} z^{18}}$

$\sqrt[3]{(3)^3 \cdot 12 \cdot (x^6)^3 \cdot x^2 \cdot (y^5)^3 \cdot y^2 \cdot (z^6)^3}$

$3 x^6 y^5 z^6 \sqrt[3]{12 x^2 y^2}$

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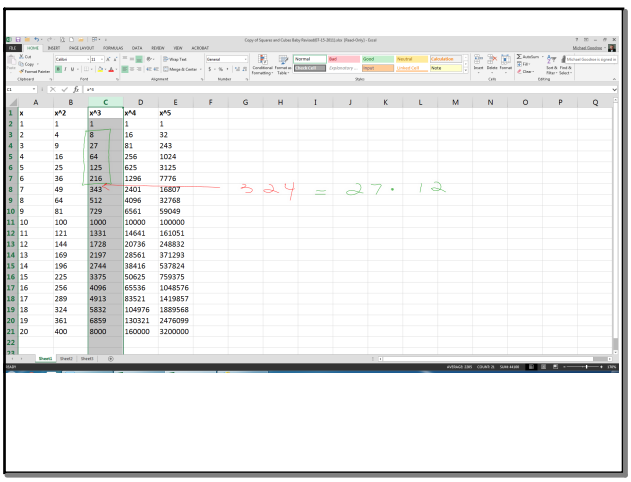

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8.3 Addition of Radicals

$3x^2 + 5x^2 = 8x^2$

Like Terms
① Same variable
② Same Exponent

Radical

$3\sqrt[4]{x} + 5\sqrt[4]{x}$

Like Radicals
① Same Radicand
② Same Index

$8\sqrt[4]{x}$

Jun 15-2:40 PM

$\sqrt{24} + 3\sqrt{54}$

$\sqrt{4 \cdot 6} + 3 \cdot \sqrt{9 \cdot 6}$

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

$2\sqrt{6} + 9\sqrt{6}$

Like

$11\sqrt{6}$

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	A	B	C	D	E
1	x	x^2	x^3	x^4	x^5
2	1	1	1	1	1
3	2	4	8	16	32
4	3	9	27	81	243
5	4	16	64	256	1024
6	5	25	125	625	3125
7	6	36	216	1296	7776
8	7	49	343	2401	16807
9	8	64	512	4096	32768
10	9	81	729	6561	59049
11	10	100	1000	10000	100000
12	11	121	1331	14641	161051
13	12	144	1728	20736	248832
14	13	169	2197	28561	371293
15	14	196	2744	38416	537824
16	15	225	3375	50625	759375
17	16	256	4096	65536	1048576
18	17	289	4913	83521	1419857
19	18	324	5832	104976	1889568
20	19	361	6859	130321	2476099
21	20	400	8000	160000	3200000

$54 = 9 \cdot 6$

example: $\sqrt{12} = \sqrt{2 \cdot 6}$

$= \sqrt{4 \cdot 3}$

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$\sqrt[3]{54} - 5\sqrt[3]{16} + \sqrt[3]{2}$

$\sqrt[3]{27 \cdot 2} - 5\sqrt[3]{8 \cdot 2} + \sqrt[3]{2}$

$3\sqrt[3]{2} - 10\sqrt[3]{2} + \sqrt[3]{2}$

$3 + (-10) + 1\sqrt[3]{2}$

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

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$\frac{\sqrt{45}}{4} - \frac{\sqrt{5}}{3}$

$\frac{3\sqrt{45} - 4\sqrt{5}}{12}$

$\frac{3\sqrt{9 \cdot 5} - 4\sqrt{5}}{12}$

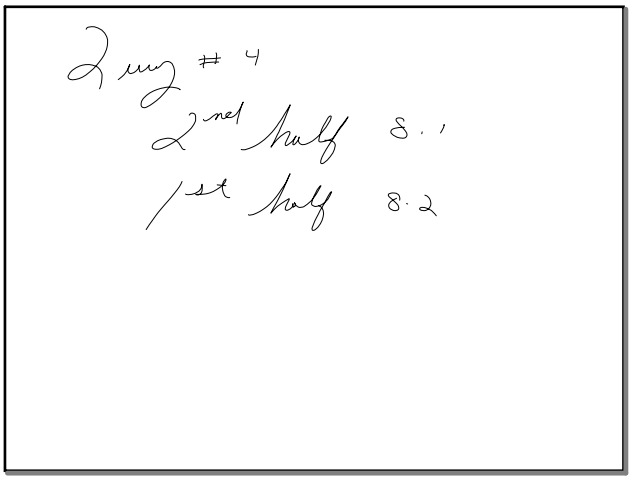
$\frac{9\sqrt{5} - 4\sqrt{5}}{12}$ Like Radicals

$\frac{5\sqrt{5}}{12}$

Jun 15-3:09 PM

$\frac{6^1\sqrt{5}}{\cancel{6}_2} = \frac{1 \cdot \sqrt{5}}{2} = \frac{\sqrt{5}}{2}$

Jun 15-3:18 PM



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