3-2 Operations with Radicals

Objectives:

- 3-2a: I can multiply radical expressions

- 3-2b: I can add and subtract radical expressions

Aug 13-9:36 AM

Group Together all the like terms

x^2 $-4x$ $8x^2$ $-x$ $4a^2b$ a^2b $7x^2$ $3x$ $3a^2b$

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Combine the following like terms

$x-2+3x+7$

$4x+5$

$3a+4b-a-2b$

$9x^2+x-3x+4$

$9x^2-2x+4$

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Like Terms for Radicals

Like terms=same info under radical

$3\sqrt{2} + \sqrt{2} = 4\sqrt{2}$

$2\sqrt{x} + 7\sqrt{x} = 9\sqrt{x}$

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Simplify following radical expressions

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

$5\sqrt{2}-\sqrt{3}$

$3\sqrt{5}+7\sqrt{5}-\sqrt{3}$

$10\sqrt{5}-\sqrt{3}$

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Simplify following radical expressions

$\sqrt{3}-2\sqrt{3}+\sqrt{7}$

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

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$\sqrt{20}+\sqrt{45}$

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

$5\sqrt{5}$

$\sqrt{12}+\sqrt{15}$

$2\sqrt{3}+\sqrt{15}$

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#10) $-2\sqrt{45}-3\sqrt{20}-2\sqrt{6}$

$-6\sqrt{5}-6\sqrt{5}-2\sqrt{6}$

$-12\sqrt{5}-2\sqrt{6}$

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Multiplying Radicals

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

You do not need like terms to multiply

You only need the same root

$2\sqrt{5} \cdot 3\sqrt{7} = 2 \cdot 3\sqrt{5 \cdot 7}$ $= 6\sqrt{35}$

Multiply outsides to outsides, and insides to insides

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Multiply the following

$\sqrt{5} \cdot \sqrt{3}$ $= \sqrt{15}$

$\sqrt{11} \cdot \sqrt{7}$

$\sqrt{6} \cdot \sqrt{8}$ $= \sqrt{48}$

6 8

3 2 2 4

2 2 2

$4\sqrt{3}$

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Multiply the following

$4\sqrt{3} \cdot 2\sqrt{5}$

$\sqrt{5} \cdot 7\sqrt{4}$ $= 7\sqrt{20}$ $= 14\sqrt{5}$

4 5

2 2

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