Review: Cont'd

Thursday, October 30, 2014
8:30 AM

two nice properties of radicals:

$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$ for a, b positive real numbers

$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$ for a, b positive real numbers and $b \neq 0$

---

simplify:

$\sqrt{16} = 4$

$\sqrt{100} = 10$

$\sqrt{81} = 9$

simplify:

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

$\sqrt{12} = \sqrt{4}\sqrt{3} = 2\sqrt{3}$

$\sqrt{27} = \sqrt{9}\sqrt{3} = 3\sqrt{3}$

$\sqrt{98} = \sqrt{49}\sqrt{2} = 7\sqrt{2}$

$\sqrt{50} = \sqrt{25}\sqrt{2} = 5\sqrt{2}$

$\sqrt{24} = \sqrt{4}\sqrt{6} = 2\sqrt{6}$

$\sqrt{48} = \sqrt{4}\sqrt{12} = \sqrt{4}\sqrt{4}\sqrt{3} = 4\sqrt{3}$

$= \sqrt{16}\sqrt{3} = 4\sqrt{3}$

$\sqrt{13} = \sqrt{13}$
$\sqrt{21} = \sqrt{21}$
$\sqrt{6} = \sqrt{6}$

$5\sqrt{2} \neq \sqrt{5}\sqrt{2}$

$\frac{1}{\sqrt{3}}\frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ ← denominator is rational

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

$\frac{1}{\sqrt{12}} = \frac{1}{2\sqrt{3}}\frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{6}$

if you insist,

$\frac{1}{\sqrt{12}} \cdot \frac{\sqrt{12}}{\sqrt{12}} = \frac{\sqrt{12}}{12} = \frac{2\sqrt{3}}{12} = \frac{\sqrt{3}}{6}$