LESSON #2 SIMPLIFYING RADICALS

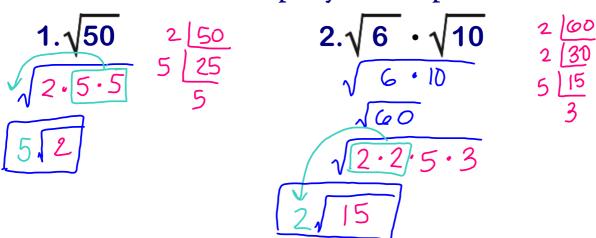
The <u>simplest form of a radical</u> <u>expression</u> is an expression that has:

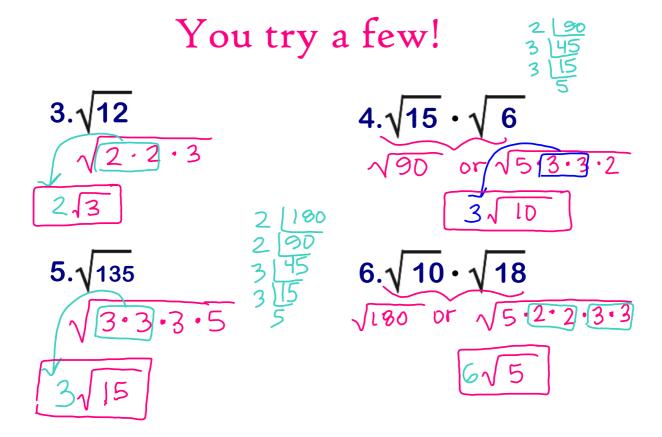
- no perfect square factors other than
 1 in the radicand
- no fractions in the radicand
- no radicals in the denominator of a fraction

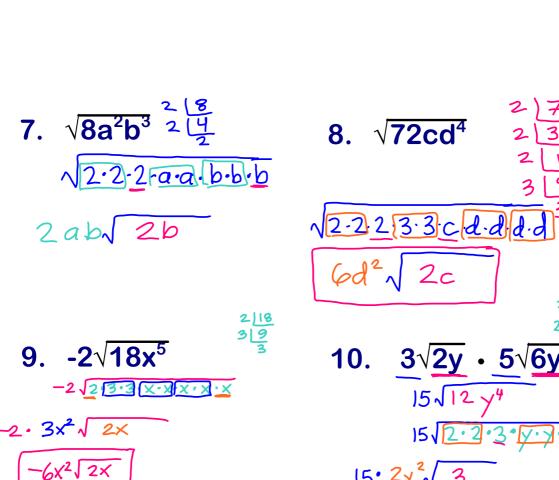
Product Property of Radicals

$$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$$

EXAMPLES: Simplify the expression.







Quotient Property of Radicals

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

EXAMPLES: Simplify the expression.

11.
$$\sqrt{\frac{32}{50}}$$
 12. $\sqrt{\frac{11}{81}} = \sqrt{\frac{11}{9}}$

$$12. \qquad \frac{\sqrt{11}}{\sqrt{81}} = \boxed{\frac{\sqrt{11}}{9}}$$

You try a few!

13.
$$\sqrt{\frac{4}{9}}$$
 $\sqrt{\frac{4}{10}}$ = $\frac{2}{3}$ 14. $\sqrt{\frac{7}{16}}$ $\sqrt{\frac{7}{4}}$

15.
$$\frac{\sqrt{18} \div 2}{\sqrt{32} \div 2}$$

$$\frac{\sqrt{9}}{\sqrt{16}} = \boxed{\frac{3}{4}}$$

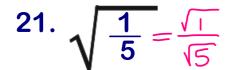
16.
$$\sqrt{\frac{2}{25}} = \sqrt{\frac{2}{5}}$$

Rationalizing the Denominator

17.
$$\frac{\sqrt{1}}{\sqrt{18}}$$
 18. $\sqrt{\frac{2}{3}}$ $\sqrt{\frac{3}{3}}$ $\sqrt{\frac{5}{3}}$ $\sqrt{\frac{$

Rationalizing the Denominator $\frac{3}{12}$ 19. $\sqrt{\frac{27}{15}}$ 20. $\frac{4\sqrt{5}}{\sqrt{12}}$ $\frac{3}{15}$ $\frac{3}$

You try a few!



22.
$$2\sqrt{7}$$
 $2\sqrt{7}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$ $3\sqrt{2}$

You try a few!

23.
$$\sqrt{28} \div 4$$

$$\frac{3\sqrt{6}}{\sqrt{36}} = \frac{\sqrt[3]{6}}{6^{3/3}}$$

