

Dividing Radicals

- Steps:
1. Divide coefficients
 2. Divide radicands
 3. Simplify LAST

****Special Case:** if the radicands cannot be divided evenly
 ↳ Split and simplify

Examples:

$$1. \sqrt{72} \div \sqrt{8}$$

$$\frac{\sqrt{72}}{\sqrt{8}}$$

$$\sqrt{\frac{72}{8}}$$

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

$$2. \frac{8\sqrt{48}}{4\sqrt{2}}$$

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

$$\frac{2(2\sqrt{6})}{4\sqrt{6}}$$

$$3. \frac{\sqrt{72a^5}}{\sqrt{2a^3}}$$

*Subtract exponents to divide

$$\frac{\sqrt{36a^2}}{\sqrt{36a^2}}$$

$$\boxed{6a}$$

$$4. \sqrt{\frac{3}{4}}$$

$$\frac{\sqrt{3}}{\sqrt{4}}$$

$$\boxed{\frac{\sqrt{3}}{2}}$$

$$5. \frac{21\sqrt{40}}{\sqrt{5}}$$

$$21\sqrt{8}$$

$$21\sqrt{4}\sqrt{2}$$

$$21(2\sqrt{2})$$

$$\boxed{42\sqrt{2}}$$

$$6. \frac{3\sqrt{54}}{6\sqrt{3}}$$

$$\frac{\sqrt{18}}{2}$$

$$\frac{\sqrt{9}\sqrt{2}}{2}$$

$$\boxed{\frac{3\sqrt{2}}{2}}$$

$$7. \sqrt{\frac{8}{49}}$$

$$\frac{\sqrt{8}}{\sqrt{49}}$$

$$\frac{\sqrt{4}\sqrt{2}}{7}$$

$$\frac{2\sqrt{2}}{7}$$

$$\boxed{\frac{2\sqrt{2}}{7}}$$

HOMEWORK

Worksheet - Dividing Radicals