

Name Key

Date \_\_\_\_\_

Period \_\_\_\_\_

### Find the Errors

Original Problem	Incorrect Work <i>(Examine the incorrect work below to find the mistake(s). CIRCLE any mistakes that you find.)</i>	Corrected Work <i>Use the space below to show the CORRECT way to solve the problem.</i>
$\sqrt{15} \cdot \sqrt{\frac{3}{5}}$	$\frac{\sqrt{45} \cdot \sqrt{5}}{\sqrt{5} \cdot \sqrt{5}} = \frac{\sqrt{225}}{5}$ $= \frac{15}{5} = 3$ <p><i>(Note: In the original work, the fraction <math>\frac{\sqrt{225}}{5}</math> and the result 3 were circled in red.)</i></p>	$\frac{\sqrt{3 \cdot 5 \cdot 3}}{\sqrt{5}} = \frac{\sqrt{5} \sqrt{9}}{\sqrt{5}} = \sqrt{9} = 3$
$\sqrt[3]{\frac{8y}{3x^4}}$	$\frac{\sqrt[3]{8y}}{\sqrt[3]{3x^4}} \cdot \frac{\sqrt[3]{3x^4}}{\sqrt[3]{3x^4}} = \frac{2\sqrt[3]{3x^4y}}{3x^4}$ $= \frac{2\sqrt[3]{3x^4y}}{3x^4}$ $= 2\sqrt[3]{y}$ <p><i>(Note: In the original work, the fraction <math>\frac{\sqrt[3]{3x^4}}{\sqrt[3]{3x^4}}</math> and the result <math>2\sqrt[3]{y}</math> were circled in red.)</i></p>	$\frac{\sqrt[3]{8y} \cdot \sqrt[3]{3^2x^2}}{\sqrt[3]{3x^4} \cdot \sqrt[3]{3^2x^2}} = \frac{\sqrt[3]{2^3 \cdot 3^2 \cdot x^2 \cdot y}}{\sqrt[3]{3^3 \cdot x^4}}$ $= \frac{2\sqrt[3]{9x^2y}}{3x^2}$
$\sqrt{\frac{5}{2}} + \sqrt{\frac{2}{5}}$	$\left(\sqrt{\frac{5}{2}} + \sqrt{\frac{2}{5}}\right) \sqrt{10} = \sqrt{50} + \sqrt{20} = \sqrt{25} + \sqrt{4} = 5 + 2 = 7$ <p><i>(Note: In the original work, the expression <math>\left(\sqrt{\frac{5}{2}} + \sqrt{\frac{2}{5}}\right) \sqrt{10}</math> and the result 7 were circled in red. A note says "not a property of equality".)</i></p>	$\frac{\sqrt{5} \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} + \frac{\sqrt{2} \cdot \sqrt{5}}{\sqrt{5} \cdot \sqrt{5}}$ $\frac{\sqrt{10} \cdot 5}{2 \cdot 5} + \frac{\sqrt{10} \cdot 2}{5 \cdot 2} = \frac{5\sqrt{10}}{10} + \frac{2\sqrt{10}}{10} = \frac{7\sqrt{10}}{10}$
$\sqrt{\frac{3}{7}} + \sqrt{\frac{7}{3}}$	$\frac{\sqrt{3} \cdot \sqrt{7}}{\sqrt{7} \cdot \sqrt{7}} + \frac{\sqrt{7} \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = \frac{\sqrt{21}}{7} + \frac{\sqrt{21}}{3}$ $= \frac{3\sqrt{21}}{21} + \frac{7\sqrt{21}}{21} = \frac{10\sqrt{21}}{21}$ <p><i>(Note: In the original work, the fraction <math>\frac{\sqrt{21}}{7} + \frac{\sqrt{21}}{3}</math> and the result <math>\frac{10\sqrt{21}}{21}</math> were circled in red. A note says "keep going".)</i></p>	$\frac{\sqrt{21} \cdot 3}{7 \cdot 3} + \frac{\sqrt{21} \cdot 7}{3 \cdot 7}$ $\frac{3\sqrt{21}}{10} + \frac{7\sqrt{21}}{10} = \frac{10\sqrt{21}}{10}$

### Find the Errors

$\sqrt[3]{54x^5}$	$\sqrt[3]{27 \cdot 2 \cdot x^3 \cdot x^2}$ $\boxed{2x^2 \cdot \sqrt[3]{3x}}$ <i>switched places</i>	$\sqrt[3]{27 \cdot 2 \cdot x^3 \cdot x^2}$ $\boxed{3x \cdot \sqrt[3]{2x^2}}$
$\frac{\sqrt{18} - \sqrt{6}}{\sqrt{3}}$	$\frac{\sqrt{18}}{\sqrt{3}} - \frac{\sqrt{6}}{\sqrt{3}} = \frac{\cancel{3}\sqrt{2}}{\cancel{\sqrt{3}}} - \frac{\sqrt{6}}{\sqrt{3}}$ $= \sqrt{2} - \sqrt{2}$ $= \boxed{0}$	$\frac{\sqrt{3 \cdot 6} - \sqrt{3 \cdot 2}}{\sqrt{3}} = \frac{\sqrt{3}(\sqrt{6} - \sqrt{2})}{\sqrt{3}}$ $= \boxed{\sqrt{6} - \sqrt{2}}$
$\sqrt[3]{\frac{8x}{3y^5}}$	$\frac{\sqrt[3]{8x}}{\sqrt[3]{3y^5}} = \frac{2\sqrt[3]{x}}{y\sqrt[3]{3y^2}} \cdot \sqrt[3]{9y}$ $= \boxed{\frac{2\sqrt[3]{9xy}}{3y}}$	$\frac{2\sqrt[3]{9xy}}{y(\sqrt[3]{27y^3})} = \frac{2\sqrt[3]{9xy}}{y(3y)}$ $= \boxed{\frac{2\sqrt[3]{9xy}}{3y^2}}$
$\sqrt[3]{24} - \sqrt[3]{56} + \sqrt[3]{81}$	$\sqrt[3]{8 \cdot 4} - \sqrt[3]{8 \cdot 7} + \sqrt[3]{9 \cdot 9}$ $\boxed{2\sqrt[3]{4} - 2\sqrt[3]{7} + 3\sqrt[3]{9}}$	$\sqrt[3]{8 \cdot 3} - \sqrt[3]{8 \cdot 7} + \sqrt[3]{27 \cdot 3}$ $\underline{2\sqrt[3]{3}} - \underline{2\sqrt[3]{7}} + \underline{3\sqrt[3]{3}}$ $\boxed{5\sqrt[3]{3} - 2\sqrt[3]{7}}$