Practice Run

Simplify the following and express each answer as an exact value.

1. $\frac{\sqrt{24}}{\sqrt{2}}$

2. $\frac{6}{\sqrt{2}}$

3. $\frac{5}{\sqrt{20}}$

4. $\frac{9\sqrt{24}}{2\sqrt{18}}$

Compare your answers.

Simplify the following and express each answer as an exact value.

1. $\dfrac{\sqrt{24}}{\sqrt{2}}$

$= \sqrt{\dfrac{24}{2}}$

$= \sqrt{12}$

$= \sqrt{4 \cdot 3}$

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

$= 2\sqrt{3}$

2. $\dfrac{6}{\sqrt{2}}$

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

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

$= \dfrac{6\sqrt{2}}{\sqrt{2^2}}$

$= \dfrac{6\sqrt{2}}{2}$

$= \dfrac{6}{2}\sqrt{2}$

$= 3\sqrt{2}$

3. $\dfrac{5}{\sqrt{20}}$

$= \dfrac{5}{\sqrt{20}} \cdot \dfrac{\sqrt{20}}{\sqrt{20}}$

$= \dfrac{5\sqrt{20}}{\sqrt{20^2}}$

$= \dfrac{5\sqrt{20}}{20}$

$= \dfrac{5\sqrt{4 \cdot 5}}{20}$

$= \dfrac{5\sqrt{2^2 \cdot 5}}{20}$

$= \dfrac{5 \cdot 2\sqrt{5}}{20}$

$= \dfrac{10\sqrt{5}}{20}$

$= \dfrac{10}{20}\sqrt{5}$

$= \dfrac{\sqrt{5}}{2}$

4. $\dfrac{9\sqrt{24}}{2\sqrt{18}}$

$= \dfrac{9\sqrt{4 \cdot 6}}{2\sqrt{9 \cdot 2}}$

$= \dfrac{9\sqrt{2^2 \cdot 6}}{2\sqrt{3^2 \cdot 2}}$

$= \dfrac{9 \cdot 2\sqrt{6}}{2 \cdot 3\sqrt{2}}$

$= \dfrac{18\sqrt{6}}{6\sqrt{2}}$

$= \dfrac{18}{6} \cdot \sqrt{\dfrac{6}{2}}$

$= 3\sqrt{3}$

or

$= \dfrac{18\sqrt{6}}{6\sqrt{2}} \cdot \dfrac{\sqrt{2}}{\sqrt{2}}$

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

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

$= \dfrac{3\sqrt{4 \times 3}}{2}$

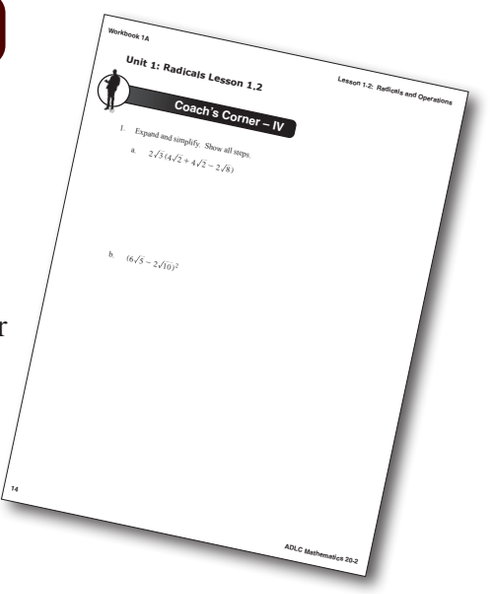
$= \dfrac{3\sqrt{2^2 \times 3}}{2}$

$= \dfrac{3 \times 2\sqrt{3}}{2}$

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

$= 3\sqrt{3}$

Coach's Corner


Workbook 1A

Unit 1: Radicals Lesson 1.2

Lesson 1.2: Radicals and Operations

Coach's Corner – IV

1. Expand and simplify. Show all steps.

a. $2\sqrt{3}(4\sqrt{2}+4\sqrt{2}-2\sqrt{8})$

b. $(6\sqrt{5}-2\sqrt{10})^2$

14

ADLC Mathematics 20-2

It is time to go to *Workbook 1A* and complete *Coach's Corner – IV*.

Please continue with the lesson in the *Module* after you have completed the *Coach's Corner* in the *Workbook* and you are confident in your skills.