



**A2.A.15 I can rationalize the denominators of rational expressions with radicals in the denominator**

*Exercise #2:* Rewrite each of the following fractions in simplest form.

(a)  $\frac{2\sqrt{3}}{\sqrt{3}\sqrt{3}}$   
 $\frac{2\sqrt{3}}{3}$

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

(c)  $\frac{5\sqrt{5}}{3\sqrt{5}}$   
 $\frac{5\sqrt{5}}{15}$   
 $\frac{\sqrt{5}}{3}$

(d)  $\sqrt{\frac{4}{7}}$

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

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**A2.A.15 I can rationalize the denominators of rational expressions with radicals in the denominator**

$(a+b)(a-b)$   
 $a^2 - b^2$

*Exercise #5:* Rewrite each of the following fractions in simplest form. Be sure to both rationalize and reduce the fractions.

(a)  $\frac{1}{3-\sqrt{7}}$

(b)  $\frac{3}{3+\sqrt{3}}$

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

$\frac{\sqrt{7}}{3\sqrt{7}-7}$

$\frac{1(3+\sqrt{7})}{(3-\sqrt{7})(3+\sqrt{7})} = \frac{3+\sqrt{7}}{9-7} = \frac{3+\sqrt{7}}{2}$

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**A2.A.15 I can rationalize the denominators of rational expressions with radicals in the denominator**

*Exercise #7:* Which of the following is equivalent to  $\left(\frac{10-\sqrt{2}}{4+\sqrt{2}}\right)$ ?

(1)  $3-\sqrt{2}$

(3)  $\frac{19-7\sqrt{2}}{7}$

(2)  $3+\sqrt{2}$

(4)  $\frac{5-2\sqrt{2}}{2}$

$$\begin{array}{r} \frac{10-\sqrt{2}}{4+\sqrt{2}} \cdot \frac{4-\sqrt{2}}{4-\sqrt{2}} \\ \hline \frac{40-10\sqrt{2}-4\sqrt{2}+2}{14} \\ \hline \frac{42-14\sqrt{2}}{14} \\ \hline 3-\sqrt{2} \end{array}$$

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**A2.N.2 I can add, subtract, multiply and divide numbers that are in radical form.**

1.  $\sqrt{8} + \sqrt{98}$

2.  $\sqrt[3]{81} - \sqrt[3]{24}$

3.  $\sqrt{\frac{32}{3}} + \sqrt{\frac{2}{3}}$

4.  $\frac{\sqrt{21} + \sqrt{15}}{\sqrt{3}}$

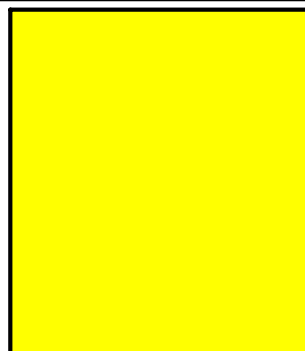
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A2.N.2 I can add, subtract, multiply and divide numbers that are in radical form.

PRACTICE

1.  $\sqrt[3]{40}(\sqrt[3]{25} + 2\sqrt[3]{5})$

2.  $\frac{\sqrt[3]{320} + \sqrt[3]{1250}}{2\sqrt[3]{5}}$



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A2.N.2 I can add, subtract, multiply and divide numbers that are in radical form.

TICKET TO LEAVE

*Exercise #6:* Which of the following would be equivalent to  $\left((2 - \sqrt{3})(2 + \sqrt{3})\right)^2$ ?

(1) 1

(3)  $8 - 4\sqrt{3}$

(2) 49

(4)  $5 + 2\sqrt{3}$

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