

AA PREP: OPERATIONS WITH RADICALS—WORKSHEET #1

KEY

Perform each operation. Simplify all radicals! Make sure to rationalize the denominator.

<p>1) $\sqrt{288}$</p> <p>$(2) \overset{\wedge}{144}$ $(12 \ 12)$ $12\sqrt{2}$</p>	<p>2) $\sqrt{3} \cdot \sqrt{3}$</p> <p>$\sqrt{3 \cdot 3}$ 3</p>
<p>3) $3\sqrt{80}$</p> <p>$(5) \overset{\wedge}{16}$ $(4 \ 4)$ $3 \cdot 4\sqrt{5}$ $12\sqrt{5}$</p>	<p>4) $(2\sqrt{5})^2$</p> <p>$2\sqrt{5} \cdot 2\sqrt{5}$ $2 \cdot 2 \cdot \sqrt{5 \cdot 5}$ $2 \cdot 2 \cdot 5$ 20</p>
<p>5) $\frac{12}{\sqrt{6}} \cdot \frac{\sqrt{6}}{\sqrt{6}} = \frac{12\sqrt{6}}{6} = 2\sqrt{6}$</p>	<p>6) $4\sqrt{20} \cdot 3\sqrt{10}$</p> <p>$4 \cdot 3 \sqrt{20 \cdot 10}$ $(2) \overset{\wedge}{10}$ $4 \cdot 3 \cdot 10\sqrt{2}$ $120\sqrt{2}$</p>
<p>7) $4\sqrt{6} + 9\sqrt{6}$</p> <p>$(4+9)\sqrt{6}$ $13\sqrt{6}$</p>	<p>8) $2\sqrt{5}(8\sqrt{3} - \sqrt{5})$</p> <p>$2\sqrt{5} \cdot 8\sqrt{3} - 2\sqrt{5} \cdot \sqrt{5}$ $2 \cdot 8\sqrt{15} \quad 2\sqrt{5 \cdot 5}$ $16\sqrt{15} - 10$ $16\sqrt{15} - 10$</p>
<p>9) $\sqrt{27} - 2\sqrt{18} + 5\sqrt{8}$</p> <p>$(3) \overset{\wedge}{9} = (3) \overset{\wedge}{6} = (2) \overset{\wedge}{4}$ $(3 \ 3) \quad (3 \ 2) \quad (2 \ 2)$ $2 \cdot 3\sqrt{3} \quad 5 \cdot 2\sqrt{2}$ $3\sqrt{3} - 6\sqrt{2} + 10\sqrt{2}$ $3\sqrt{3} + 4\sqrt{2}$</p>	<p>10) $\sqrt{\frac{48 \div 16}{32 \div 16}} = \sqrt{\frac{3}{2}} = \frac{\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{6}}{2}$</p>