

Name Key

Date \_\_\_\_\_

8A; Algebra 1

Period \_\_\_\_\_

Homework

Simplify the following and leave your answer in simplest radical form.

<p>1) <math>4\sqrt{21} \cdot 5\sqrt{3}</math>  <math>20\sqrt{63}</math>  <math>20 \cdot \sqrt{9 \cdot 7}</math>  <math>20 \cdot 3\sqrt{7}</math>  <u><math>60\sqrt{7}</math></u></p>	<p>2) <math>\sqrt{60x^9} \div \sqrt{5x^4}</math> *Subtract exponents  <math>\frac{\sqrt{60x^9}}{\sqrt{5x^4}} = \sqrt{12x^5}</math>  <math>\sqrt{12 \cdot \sqrt{x^5}}</math>  <math>\sqrt{4 \cdot 3 \cdot \sqrt{x^4 \cdot x}}</math>  <math>2\sqrt{3} \cdot x^2\sqrt{x}</math>  <u><math>2x^2\sqrt{3x}</math></u></p>	<p>3) <math>\frac{21\sqrt{600}}{7\sqrt{2}}</math>  <math>3\sqrt{300}</math>  <math>3 \cdot \sqrt{100 \cdot 3}</math>  <math>3 \cdot 10\sqrt{3}</math>  <u><math>30\sqrt{3}</math></u></p>
<p>4) <math>(-2\sqrt{5})(3\sqrt{10})</math>  <math>-6\sqrt{50}</math>  <math>-6 \cdot \sqrt{25 \cdot 2}</math>  <math>-6 \cdot 5\sqrt{2}</math>  <u><math>-30\sqrt{2}</math></u></p>	<p>5) <math>(-4\sqrt{7})^2</math>  <math>(-4\sqrt{7})(-4\sqrt{7})</math>  <math>16\sqrt{49}</math>  <math>16 \cdot 7</math>  <u><math>112</math></u></p>	<p>6) <math>\frac{\sqrt{120y^{10}}}{\sqrt{6y^2}}</math> *Subtract exponents  <math>\sqrt{20y^8}</math>  <math>\sqrt{20} \cdot \sqrt{y^8}</math>  <math>\sqrt{4 \cdot 5} \cdot y^4</math>  <math>2 \cdot 5 \cdot y^4</math>  <u><math>2y^4\sqrt{5}</math></u></p>
<p>7) <math>\frac{\sqrt{16x^5}}{\sqrt{4x^3}}</math> *Subtract exponents  <math>\sqrt{4x^2}</math>  <math>\sqrt{4} \cdot \sqrt{x^2}</math>  <math>2 \cdot x</math>  <u><math>2x</math></u></p>	<p>8) <math>3\sqrt{27x^3y} \cdot 4\sqrt{6x^2y^9}</math> *Add exponents  <math>12\sqrt{162x^5y^{10}}</math>  <math>12 \cdot \sqrt{81 \cdot 2} \cdot \sqrt{x^5} \cdot \sqrt{y^{10}}</math>  <math>12 \cdot 9\sqrt{2} \cdot x^2\sqrt{x} \cdot y^5</math>  <u><math>108x^2y^5\sqrt{2x}</math></u></p>	<p>9) <math>\frac{2}{3}\sqrt{14} \cdot 12\sqrt{7}</math>  <math>8\sqrt{98}</math>  <math>8 \cdot \sqrt{49 \cdot 2}</math>  <math>8 \cdot 7\sqrt{2}</math>  <u><math>56\sqrt{2}</math></u></p>
<p>10) What is the area of a triangle with a base of <math>\sqrt{24}</math> and a height of <math>5\sqrt{6}</math>  <math>A = \frac{1}{2}bh</math>  <math>A = \frac{1}{2}(\sqrt{24})(5\sqrt{6})</math>  <math>A = \frac{1}{2}(5\sqrt{144})</math>  <math>A = \frac{1}{2}(5 \cdot 12)</math>  <math>A = \frac{1}{2}(60)</math>  <u><math>A = 30\sqrt{2}</math></u></p>	<p>11) What is the area of a rectangle with a length of <math>3\sqrt{6}</math> and a width of <math>\sqrt{24}</math>?  <math>A = L \cdot w</math>  <math>A = (3\sqrt{6})(\sqrt{24})</math>  <math>A = 3\sqrt{144}</math>  <math>A = 3 \cdot 12</math>  <u><math>A = 36\sqrt{2}</math></u></p>	