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| **Multiplying Radicals**1. Multiply Coefficients 2. Multiply Radicands 3. Simplify  | $$\sqrt{3} (2\sqrt{4}+\sqrt{5})$$ | $$2\sqrt{5} (2\sqrt{3}+\sqrt{5})$$ | $$(\sqrt{3}+6) (\sqrt{3}-6)$$ | $$(\sqrt{7}-2) (\sqrt{7}+2)$$ |
| **Rationalizing Radicals**1. Multiply Top and Bottom by the radicand on the bottom 2. Multiply 3. Simplify  | $$\frac{2\sqrt{5}}{\sqrt{3}}$$ | $$\frac{5\sqrt{3}}{\sqrt{6}}$$ | **Adding/Subtracting Radicals**1. Look to Simplify 2. Combine Coefficients of Like Radicals | $$2\sqrt{5}+2\sqrt{3}+\sqrt{5})$$ |
| $$3\sqrt{18}-\sqrt{3}+2\sqrt{32})$$ | **Simplifying Radicals**1. Determine a perfect square 2. Perfect Things (square roots) on the outside; imperfect things on the inside  | $$\sqrt{300}$$ | $$2\sqrt{54x^{2}}$$ | $$-3\sqrt{27x^{3}y^{5}}$$ |
| **Multiply Polynomials**1. Distribute 1st term 2. Distribute 2nd term 3. Combine like terms to simplify  | $$(2x-4)^{2}$$ | $$(x-4)(x^{2}+3x-5)$$ | $$(3x-4)(3x+4)$$ | Determine the volume of a cube with length (2x – 3), width (x +4), and height (x).  |
| **Adding Polynomials**1. Combine Like Terms  | $$\left(3x^{2}-2x+5\right)+(-2x^{2}+7x-4)$$ | **Subtracting Polynomials**1. Distribute the negative 2. Combing like terms  | $$\left(3x^{2}-2x+5\right)-(-2x^{2}+7x-4)$$ | Determine the perimeter of a rectangle with length (2x – 3) and width (x+4). |
| **Number System**Real vs Irrational  | $$\sqrt{8}$$ | $$\frac{\sqrt{32}}{4}$$ | $$(\sqrt{7 })^{2}$$ | $$3\sqrt{36}+1.5\sqrt{64}$$ |
| **Translating Expressions** | Write an expression for the “difference of a square of a number and 7” | Write an expression representing the cost of purchasing a HHS shirt costing ***x*** dollars, and having a discount of 15% off. | **Parts of an expression**1. Coefficients 2. Terms 3. Constants  | $$-2x^{2}+7x-4$$ |
| **Unit Conversion**1. Start with Given 2. Need Diagonal Units 3. Multiply Top and Bottom 4. Divide to Simplify  | 30,000 feet to centimeters  | 40 oz to kg  | 45 mph to feet per sec | YOU GOT THIS☺ |