Multiplying Radicals 1. Multiply Coefficients 2. Multiply Radicands 3. Simplify	$\sqrt{3}\,(2\sqrt{4}+\sqrt{5})$ $2\sqrt{12}+\sqrt{15}$ $\boxed{4\sqrt{3}+\sqrt{15}}$	$2\sqrt{5}\,(2\sqrt{3}+\sqrt{5})$ $4\sqrt{15}+2\sqrt{25}$ $\boxed{4\sqrt{15}+10}$	$(\sqrt{3}+6)\,(\sqrt{3}-6)$ $\sqrt{9}-6\sqrt{3}+6\sqrt{3}-36$ $3-36$ $\boxed{-33}$	$(\sqrt{7}-2)\,(\sqrt{7}+2)$ $\sqrt{49}+2\sqrt{7}-2\sqrt{7}-4$ $7-4$ $\boxed{3}$
Rationalizing Radicals 1. Multiply Top and Bottom by the radicand on the bottom 2. Multiply 3. Simplify	$\frac{2\sqrt{5}\cdot\sqrt{3}}{\sqrt{3}\cdot\sqrt{3}}$ $\frac{2\sqrt{15}}{\sqrt{9}}=\boxed{\frac{2\sqrt{15}}{3}}$	$\frac{5\sqrt{3}\cdot\sqrt{6}}{\sqrt{6}\cdot\sqrt{6}}$ $\frac{5\sqrt{18}}{\sqrt{36}}=\frac{15\sqrt{2}}{6}$ $\boxed{\frac{5\sqrt{2}}{2}}$	**Adding/Subtracting Radicals** 1. Look to Simplify 2. Combine Coefficients of Like Radicals	$2\sqrt{5}+2\sqrt{3}+\sqrt{5})$ $\boxed{3\sqrt{5}+2\sqrt{3}}$
$3\sqrt{18}-\sqrt{3}+2\sqrt{32})$ $9\sqrt{2}-\sqrt{3}+8\sqrt{2}$ $\boxed{17\sqrt{2}-\sqrt{3}}$	**Simplifying Radicals** 1. Determine a perfect square 2. Perfect Things (square roots) on the outside; imperfect things on the inside	$\sqrt{300}$ $\boxed{10\sqrt{3}}$	$2\sqrt{54x^2}$ $\boxed{6x\sqrt{6}}$	$-3\sqrt{27x^3y^5}$ $\boxed{-9xy^2\sqrt{3xy}}$
Multiply Polynomials 1. Distribute 1st term 2. Distribute 2nd term 3. Combine like terms to simplify	$(2x-4)^2$ $(2x-4)(2x-4)$ $4x^2-8x-8x+16$ $\boxed{4x^2-16x+16}$	$(x-4)(x^2+3x-5)$ x^3+3x^2-5x $-4x^2-12x+20$ $\boxed{x^3-x^2-17x+20}$	$(3x-4)(3x+4)$ $9x^2-12x+12x-16$ $\boxed{9x^2-16}$	Determine the volume of a cube with length (2x – 3), width (x +4), and height (x). $x(2x-3)$ $2x^2-3x(x+4)$ $2x^3+8x^2-3x^2-12x$
Adding Polynomials 1. Combine Like Terms	$(3x^2-2x+5)+(-2x^2+7x-4)$ $\boxed{x^2+5x+1}$	**Subtracting Polynomials** 1. Distribute the negative 2. Combing like terms	$(3x^2-2x+5)-(-2x^2+7x-4)$ $3x^2-2x+5+2x^2-7x+4$ $\boxed{5x^2-9x+9}$	Determine the perimeter of a rectangle with length (2x – 3) and width (x+4). $(2x-3)(x+4)$ $2x^2+8x-3x-12$ $6x+12$ Area $2x^2+5x-12$
Number System ~~Real~~ vs Irrational Rational	$\sqrt{8}$ $2\sqrt{2}$ I	$\frac{\sqrt{32}}{4}$ $\frac{4\sqrt{2}}{4}$ $\sqrt{2}$ I	$(\sqrt{7})^2$ 7 R	$3\sqrt{36}+1.5\sqrt{64}$ $3(6)+1.5(8)$ $18+12$ 30 R
Translating Expressions	Write an expression for the "difference of a square of a number and 7" x^2-7	Write an expression representing the cost of purchasing a HHS shirt costing **x** dollars, and having a discount of 15% off. $.85x$	**Parts of an expression** 1. Coefficients 2. Terms 3. Constants	$-2x^2+7x-4$ Coeff: $-2, 7$ Terms: 3 Constants: -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 914,400 cm	40 oz to kg 1.135 kg	45 mph to feet per sec $\frac{45\text{ mile}}{1\text{ hr}}\times\frac{5280\text{ ft}}{1\text{ mile}}\times\frac{1\text{ hr}}{60\text{ min}}\times\frac{1\text{ min}}{60\text{ sec}}=$	YOU GOT THIS ☺ $\boxed{66\text{ ft/sec}}$

$30\,000\text{ ft}\times\frac{12\text{ in}}{1\text{ ft}}\times\frac{2.54\text{ cm}}{1\text{ in}}=$

$40\text{ oz}\times\frac{1\text{ lb}}{16\text{ oz}}\times\frac{.454\text{ kg}}{1\text{ lb}}$