STAAR ALGEBRA I REFERENCE MATERIALS



FACTORING	
Perfect square trinomials	$a^{2} + 2ab + b^{2} = (a + b)^{2}$ $a^{2} - 2ab + b^{2} = (a - b)^{2}$
Difference of squares	$a^2 - b^2 = (a - b)(a + b)$
PROPERTIES OF EXPONENTS	
Product of powers	$a^m a^n = a^{(m+n)}$
Quotient of powers	$\frac{a^m}{a^n}=a^{(m-n)}$
Power of a power	$(a^m)^n = a^{mn}$
Rational exponent	$a^{\frac{m}{n}} = \sqrt[n]{a^m}$
Negative exponent	$a^{-n} = \frac{1}{a^n}$
LINEAR EQUATIONS	
Standard form	Ax + By = C
Slope-intercept form	y = mx + b
Point-slope form	$y - y_1 = m(x - x_1)$
Slope of a line	$m = \frac{y_2 - y_1}{x_2 - x_1}$
QUADRATIC EQUATIONS	
Standard form	$f(x) = ax^2 + bx + c$
Vertex form	$f(x) = a(x - h)^2 + k$
Quadratic formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Axis of symmetry	$x = \frac{-b}{2a}$