

Algebra II ~ Semester 1 ~ Exam Note Sheet – Chapters 4, 9, 5 & 6

Standard Form $y = ax^2 + bx + c$ $x = -\frac{b}{2a}$	Vertex Form $y = a(x - h)^2 + k$ (h, k)	Intercept Form $y = a(x - p)(x - q)$ $x = \frac{p + q}{2}$
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Difference of Squares: $a^2 - b^2 = (a + b)(a - b)$ Difference of Cubes: $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$ Sum of Cubes: $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$	Quadratic Formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
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<u>Circle</u> $(x - h)^2 + (y - k)^2 = r^2$	$i^2 = -1$ $\sqrt{-1} = i$
<u>Parabola</u> $y^2 = 4px$ $x^2 = 4py$ $(y - k)^2 = 4p(x - h)$ $(x - h)^2 = 4p(y - k)$	$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$ $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Power Sheet

$2^1 = 2$	$3^1 = 3$	$4^1 = 4$	$5^1 = 5$	$6^1 = 6$
$2^2 = 4$	$3^2 = 9$	$4^2 = 16$	$5^2 = 25$	$6^2 = 36$
$2^3 = 8$	$3^3 = 27$	$4^3 = 64$	$5^3 = 125$	$6^3 = 216$
$2^4 = 16$	$3^4 = 81$	$4^4 = 256$	$5^4 = 625$	$6^4 = 1296$
$2^5 = 32$	$3^5 = 243$	$4^5 = 1024$	$5^5 = 3125$	$6^5 = 7776$
$2^6 = 64$	$3^6 = 729$	$4^6 = 4096$	$5^6 = 15625$	$6^6 = 46656$
$2^7 = 128$	$3^7 = 2187$	$4^7 = 16384$	$5^7 = 78125$	$6^7 = 279936$
$7^1 = 7$	$8^1 = 8$	$9^1 = 9$	$10^1 = 10$	$11^1 = 11$
$7^2 = 49$	$8^2 = 64$	$9^2 = 81$	$10^2 = 100$	$11^2 = 121$
$7^3 = 343$	$8^3 = 512$	$9^3 = 729$	$10^3 = 1000$	$11^3 = 1331$
$7^4 = 2401$	$8^4 = 4096$	$9^4 = 6561$	$10^4 = 10000$	$11^4 = 14641$
$7^5 = 16807$	$8^5 = 32768$	$9^5 = 59049$	$10^5 = 100000$	$11^5 = 161051$

