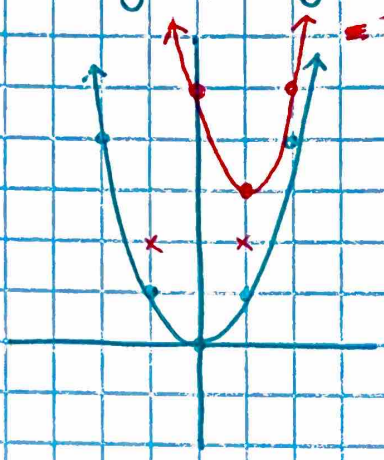
Ch3 Quiz Notes

parabolas

$y = a(x-h)^2 + k$

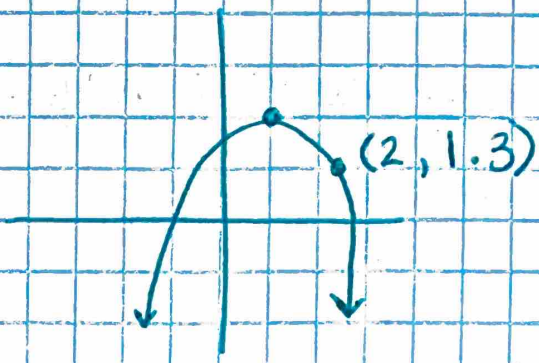
- a: vertical dilation
- h: left/right ☆
- k: up/down

ex 1 graph $y = 2(x-1)^2 + 3$



final
VD 2
R 1
U 3

ex 2 find the equation



① Step 1: find vertex → (1, 2)

$y = a(x-1)^2 + 2$

② Step 2: plug in pt. solve for a

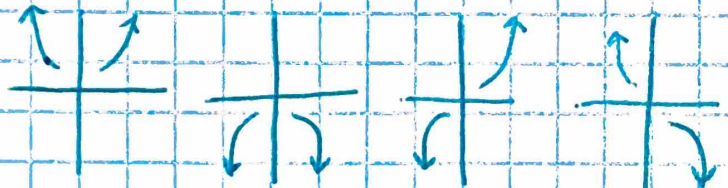
$1.3 = a(2-1)^2 + 2$

$-0.7 = a$

$\boxed{y = -0.7(x-1)^2 + 2}$

polynomials

end behaviour



LC: + D: even | LC: − D: ~~odd~~ even | LC: + D: odd | LC: − D: odd

* in standard form look @ the biggest exponent → degree
* in factored form add the exponents → degree

ex 1 $y = 3x^7 - 5x^3 + 7x^9 + 4$

LC: 7 D: 9 down-up

ex 2 $y = 2x(x+7)^2(2x-1)^2(x+9)$

LC: $2 \cdot 4 = 8$ up-up

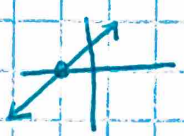
D: $1+2+2+1 = 6$

zeros

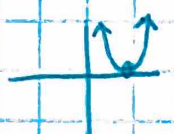
* set each factor with x to zero & solve

multiplicity

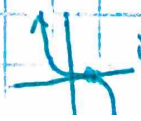
* look at exponent of each factor



single if exp = 1



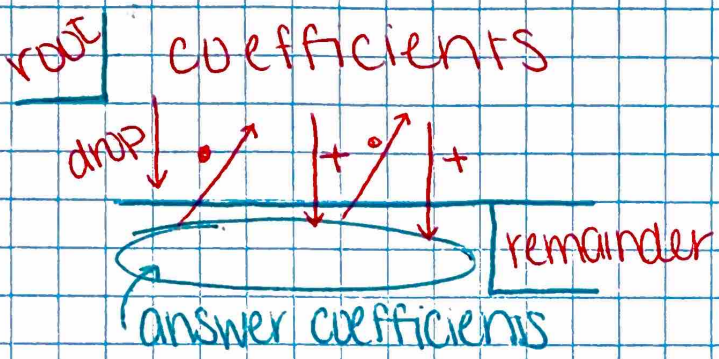
bounce if exp. is even



switchback if exp is odd

long division

* check out notes for examples

answer : top + $\frac{\text{remainder}}{\text{outside}}$

synthetic division