Section 2.3:

Objective: Finding Zeros of polynomials and their multiplicity

- Ex 1: $f(x) = x^2 + 2x$
- Ex2: $f(x) = x^2 - x - 12$
- Ex 3: $f(x) = 2x^2 + 7x + 3$
- Ex 4: $f(x) = 5x^2 + 15x + 10$
- Ex 5: $f(x) = x^3 + 3x^2 + 2x$

zero of poly. → Factor → set factors = 0

GCF ?

X-method (works only with Quadratics)

Solve for x

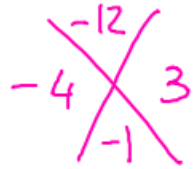
- Graph → x-intercepts.
- zeros of a polynomial: it is an x value(s) that make the function equal to zero.

Ex 1: $x^2 + 2x = x(x+2)$

Zeros: $x = 0$ and $x = -2$

Ex 2: $f(x) = x^2 - x - 12$

No GCF, x-method



$f(x) = (x-4)(x+3)$

Zeros 4 and -3

Ex 3: $f(x) = 2x^2 + 7x + 3$

$f(x) = (x+\frac{6}{2})(x+\frac{1}{2})$

$f(x) = (x+3)(2x+1)$ factored form.

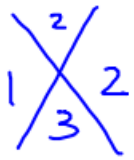
Zeros : -3 and $-1/2$

Ex 4: $f(x) = 5x^2 + 15x + 10$

$= 5(x^2 + 3x + 2)$

$= 5(x+2)(x+1)$

$5 \neq 0$



Zeros ~~8~~, -2, -1

$5(5)^2 + 15(5) + 10$

5 does not make the function equal to zero.

Ex 5: $f(x) = x^3 + 3x^2 + 2x$.

$= x(x^2 + 3x + 2)$

$= x(x+2)(x+1)$

zeros 0, -2, -1

Classwork: p 193 # 33-38 (Homework section).

Homework: p 192 Quick review 1-6

p 193 # 29-32 matching

Explain how you matched