

Graph:

$$y = (x^3 - x^2)(25x + 25)$$

$$y = x^2(x-1) - 25(x-1)$$

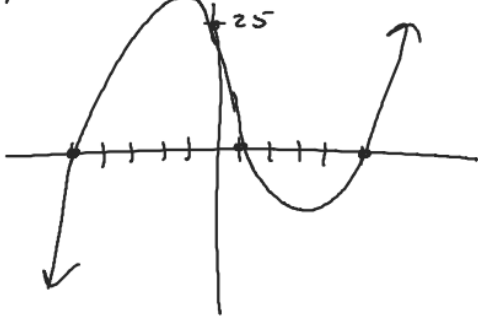
$$= (x^2 - 25)(x-1)$$

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

$$x-5=0 \quad x+5=0 \quad x-1=0$$

Zeros: $x = 5, -5, 1$

y-int $(0, 25)$



Multiplicity is
even touch
x-axis but
not cross
Multiplicity odd
Cross x-axis

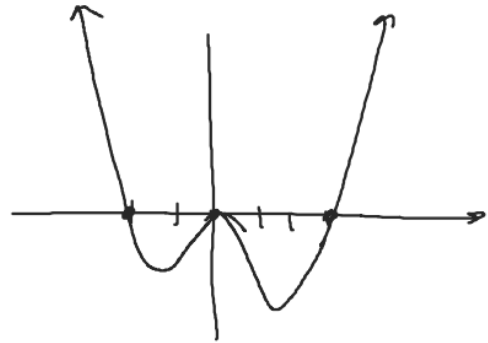
$$x^2 = 0$$
$$x = 0 \quad x = 0$$

$$y = x^4 - x^3 - 6x^2$$

$$= x^2(x^2 - x - 6)$$

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

Zeros: $x = 0, 3, -2$



Multiplicity of Zeros
(How many times a number
is a zero)

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

↑

mult of
2

touch

↑

mult of
1

Cross

↑

mult of
1

Cross