

Station #1 Recording Sheet

For each question, complete the following:

- State the degree
- Determine the end behavior
- Find the zeros, noting any multiplicities
- Graph the polynomial...remember when to **BOUNCE**, when to **WIGGLE**

Key

1) a) 3 b) $y = 3x^3$ at, odd $\curvearrowright \uparrow$

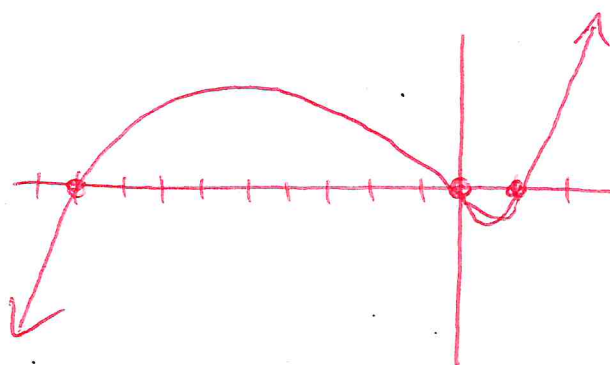
c) $y = 3x(x^2 + 8x - 9)$

$y = 3x(x+9)(x-1)$

$3x(x+9)(x-1) = 0$

$3x = 0 \quad x+9 = 0 \quad x-1 = 0$

$x = 0 \quad x = -9 \quad x = 1$



2) $y = (x-5)(x-3)(x+2)^2$ a) 4 b) $y = x^4$ at, even $\curvearrowright \uparrow$

c) $(x-5)(x-3)(x+2)^2 = 0$

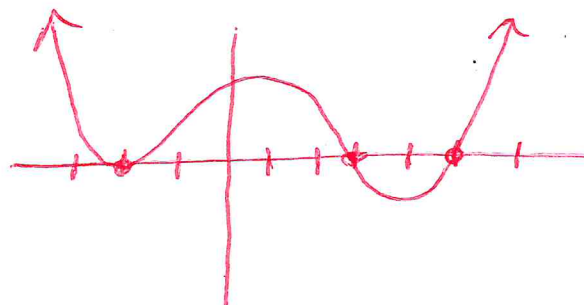
$x-5 = 0 \quad x-3 = 0 \quad (x+2)^2 = 0$

$x = 5 \quad x = 3$

$x+2 = 0$

$x = -2$

multiplicity 2



3) a) 6 b) $y = -4x^6$

c) $-4x(x+1)^3(x-4)^2 = 0$

$-4x = 0$

$x = 0$

$(x+1)^3 = 0$

$x+1 = 0$

$x = -1$

multiplicity of 3

$(x-4)^2 = 0$

$x-4 = 0$

$x = 4$

multiplicity of 2

