HW

Sketch a possible graph for the polynomial. Be sure to label zeroes and y intercept.

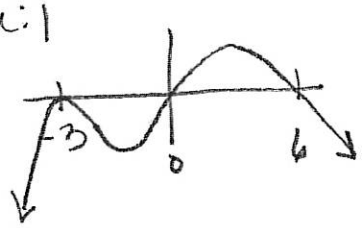
Even degree neg.

11. $f(x) = -x(x+3)^2(x-6)$ ↓↓

$x=0$ m:1

$x=-3$ m:2 → bounce

$x=6$: m:1

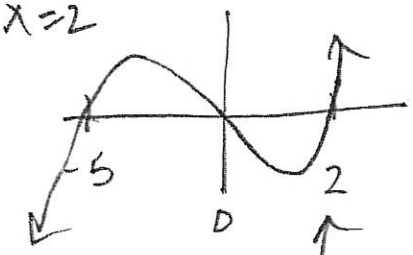


12. $f(x) = 4x(x+5)(x-2)$ odd pos ↓↑

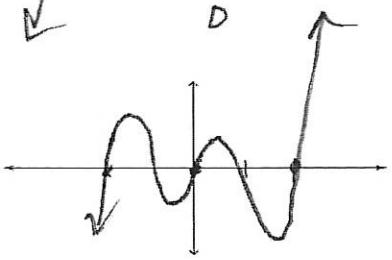
$x=0$

$x=-5$

$x=2$



13. $f(x) = x^5 - 5x^3 + 4x$ pos, odd ↓↑



zero(s) $\{-2, -1, 0, 1, 2\}$ y-intercept $(0,0)$

degree 5 end behavior ↓↑

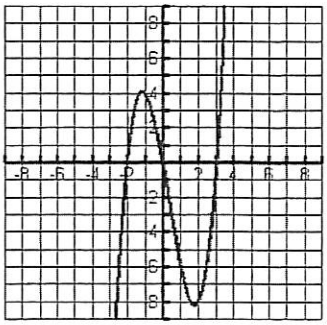
14. $g(x) = x^3 - 5x^2 - 4x + 20$

zero(s) $\{-2, 2, 5\}$ y-intercept $(0,20)$

degree 3 end behavior ↓↑

15) Write a possible equation for the following graph:

a.



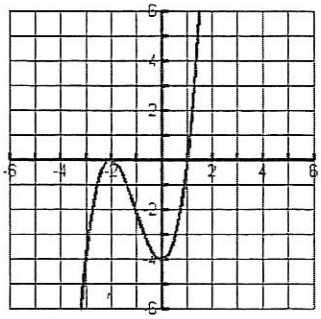
odd, pos

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

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

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

b.



(0, -4)

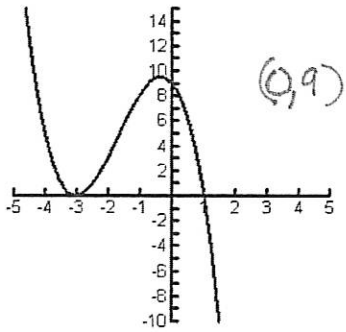
odd, pos

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

$-4 = a\,4(-1)$ $a = 1$

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

c.



(0, 9)

neg odd

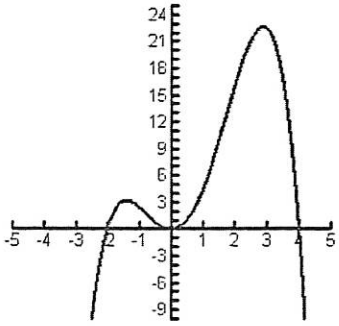
$y = a(x+3)^2(x-1)$

$9 = a\,9(-1)$

$a = -1$

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

d.



neg even

$y = x^2(x+2)(x+4)$