

5-1 HOMEWORK SOLUTIONS

1) a) $5x^3$

cubic monomial
(degree 3) (1 term)

b) $6x^2 + 4x - 2$

QUADRATIC trinomial
(degree 2) (3 terms)

2) a) $7x - 3 + 2x^2$

Standard form
 $2x^2 + 7x - 3$

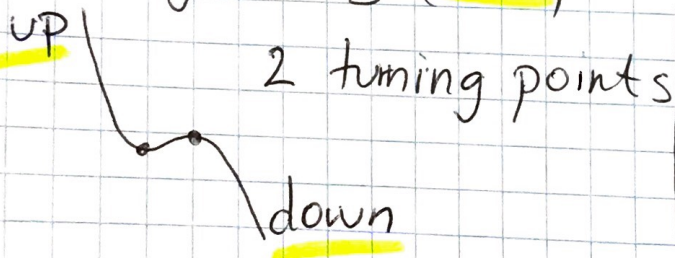
b) $x^2 - 2x + 4x^3 - 1$

st. form $4x^3 + x^2 - 2x - 1$

3) a) $-7x^3 + 8x^2 + x$

$a = -7$ (NEG. coefficient)

degree = 3 (odd)



b) $1 - 4x - 6x^3 - 15x^6$

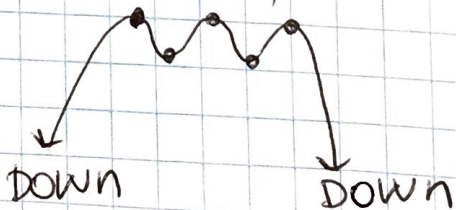
NEED to be in standard form!

$-15x^6 - 6x^3 - 4x + 1$

$a = -15$ (NEG. coeff.)

degree = 6 (even)

turning points 5



4) ERROR ANALYSIS
WRONG!

$y = 4x^3 + 4$ has 1 turning pt and behavior up and down

correct # of turning points is one less than the degree of the polynomial = 2
end behavior is down and up

$a = 4$
+
degree = 3
odd

5-2 part 1 solutions

1) find the zeros

a) $y = x(x-6)$ b) $y = (2x+3)(x-1)$
 $x=0$ $x=6$ $x = -\frac{3}{2}$ $x=1$

c) $y = x^3 - 4x^2 - 21x$
 $y = x(x^2 - 4x - 21)$
 $y = x(x-7)(x+3)$
 $x=0$ $x=7$ $x=-3$

2) $x = -2$ $x = 1$ $x = -1$

$(x+2)(x-1)(x+1)$

multiply first two factors

x	x^2	$2x$
-1	$-x$	-2

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

then multiply your answer by the third factor

x	x^3	x^2	$-2x$
+1	x^2	x	-2

$x^3 + 2x^2 - x - 2$

5-2 part 1 cont.

3) Error analysis. statement a function with zeros $x=3, x=-1$ is $f(x) = x^2 + 2x - 3$

is WRONG because $f(x) = x^2 + 2x - 3$ factors to $(x+3)(x-1)$, so the zeros would be $x=-3$ and $x=1$. My friend forgot to change the sign when solving for zeros.