

# Graphing Polynomial Functions Notes

Complete each of the following.

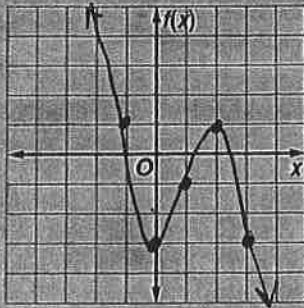
a. Graph each function by making a table of values.

b. Determine consecutive values of  $x$  between which each real zero is located.

c. Estimate the  $x$ -coordinates at which the relative and relative minima occur.

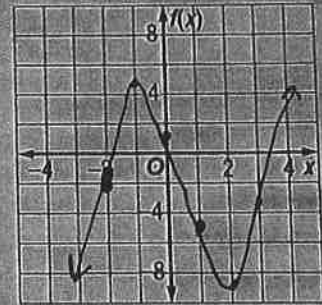
1.  $f(x) = -x^3 + 3x^2 - 3$

$x$	$f(x)$
-2	17
-1	1
0	-3
1	-1
2	1
3	-3
4	-19



2.  $f(x) = x^3 - 1.5x^2 - 6x + 1$

$x$	$f(x)$
-2	-1
-1	4.5
0	1
1	-5.5
2	-9
3	-3.5
4	17



B)  $-0.88$  and  $1.35$  and  $2.53$

C) Max  $x=2$

Min  $x=0$

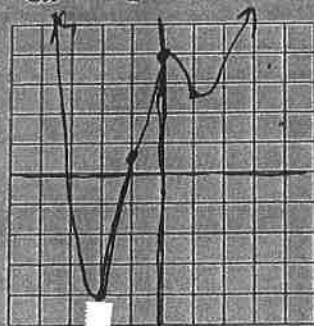
B)  $-1.91$  and  $.16$  and  $3.25$

C) Max  $x=-1$

Min  $x=2$

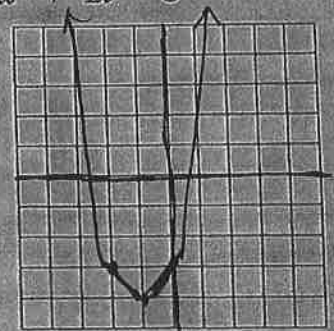
3.  $f(x) = 0.75x^4 + x^3 - 3x^2 + 4$

$x$	$f(x)$
-3	10.75
-2	-4
-1	0.75
0	4
1	2.75
2	12



4.  $f(x) = x^4 + 4x^3 + 6x^2 + 4x - 3$

$x$	$f(x)$
-3	12
-2	-3
-1	-4
0	-3
1	12
2	77



B)  $-2.57$  and  $-1.12$

C) Min  $x=-2$  and  $1$

Max  $x=0$

B)  $-2.41$  and  $.41$

C) Min  $x=-1$

Max - none