

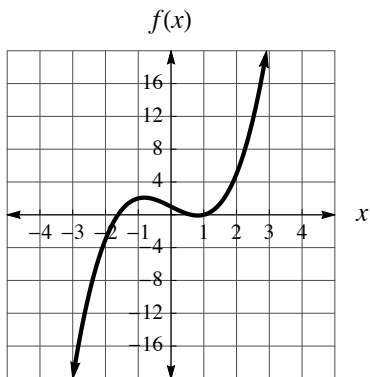
# Quiz 3: Version D

First & Last Name: \_\_\_\_\_ Class: \_\_\_\_\_

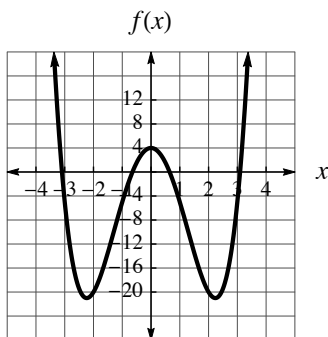
1. Complete the following finite differences table for the function  $f(x) = x^3 - 2x + 1$ . Plot the finite differences on the graph.

$x$	-3	-2	-1	0	1	2	3
$f(x)$	-20	-3	2	1	0	5	22

$\Delta y$						
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2. Write a slope statement for the function  $f(x) = x^4 - 10x^2 + 4$ , which is graphed below.



3. The distance an object is from its starting point (position,  $p$ , in meters) as a function of time,  $t$  (in seconds), is given by the equation  $p(t) = \frac{1}{2}t^4 - 5t^2$  (also see the graph below).

- i) What is the object's position at  $t = 2$  seconds?
- ii) What was the object's displacement between  $t = 1$  and  $t = 3$  seconds?
- iii) What distance does the object travel between  $t = 1$  and  $t = 3$  seconds?
- iv) What is the average velocity of the object between  $t = 1$  and  $t = 3$  seconds?

**Honors:** What is the average velocity of the object on the interval  $0.5 \leq t \leq 2.5$ ? Your answer should be accurate to two decimal places.

Position [ $m$ ]

