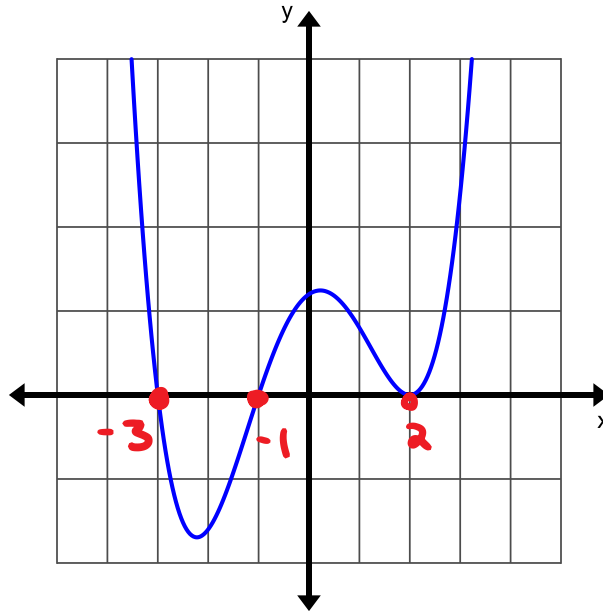


1.) Answer the following questions for the polynomial function shown below.



- a. The leading coefficient of this graph is considered to be positive. positive or negative
- b. The degree of this graph is considered to be even. odd or even
- c. The graph has 4 zero's. 1 or 2 or 3 or 4 or 5

2.) What are the zeros of $P(m) = (m^2 - 4)(m^2 + 1)$?

(a) 2 and -2 , only

(b) 2 , -2 and -4

(c) -4 , i and $-i$

(d) 2 , -2 , i and $-i$

$$m^2 - 4 = 0$$

$$m^2 + 1 = 0$$

$$\sqrt{m^2} = \sqrt{4}$$

$$m^2 = -1$$

$$m = \pm\sqrt{4}$$

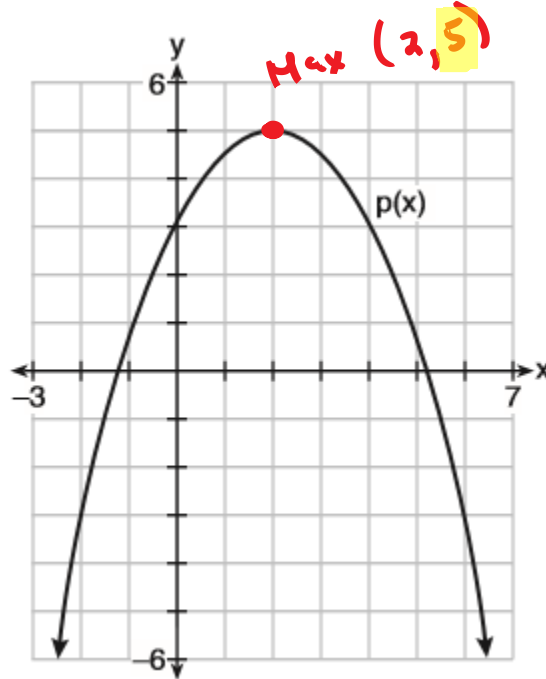
$$m = \pm\sqrt{-1}$$

$$m = \pm 2$$

$$m = \pm i$$

3.) Consider $f(x) = 4x^2 + 6x - 3$, and $p(x)$ defined by the graph below.

Min $(-0.75, -5.25)$



The difference between the value of the maximum of p and minimum of f is

(a) 0.25

(b) 1.25

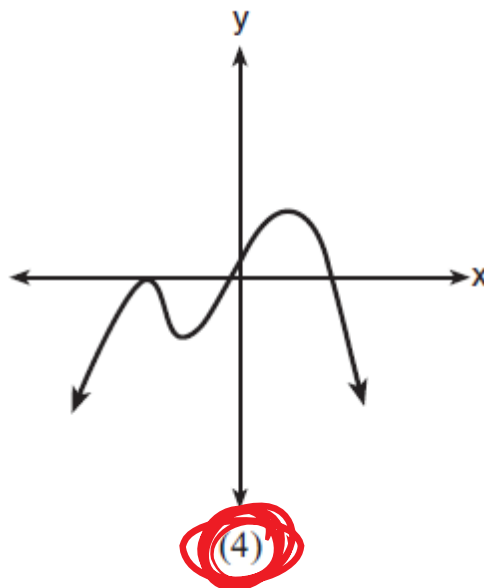
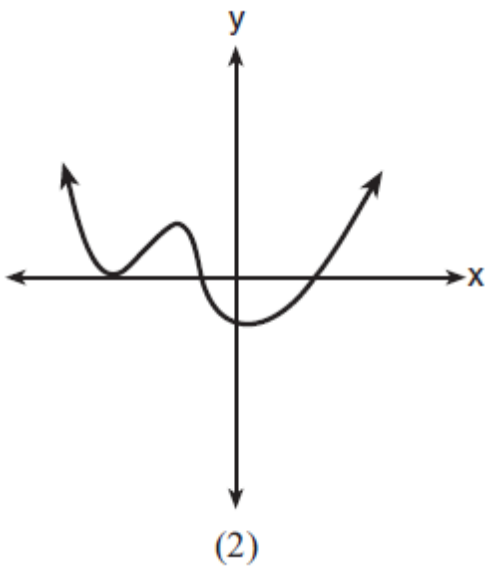
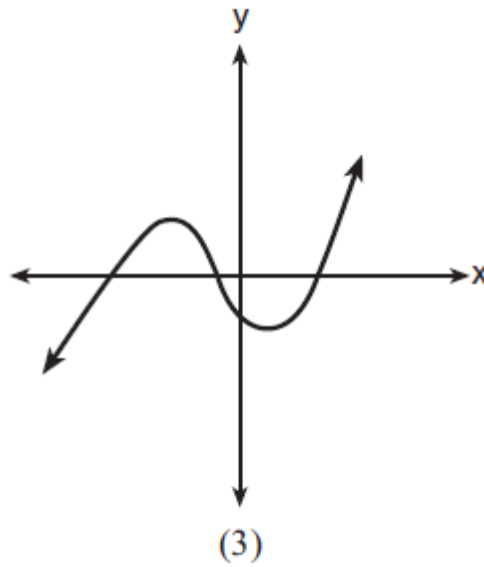
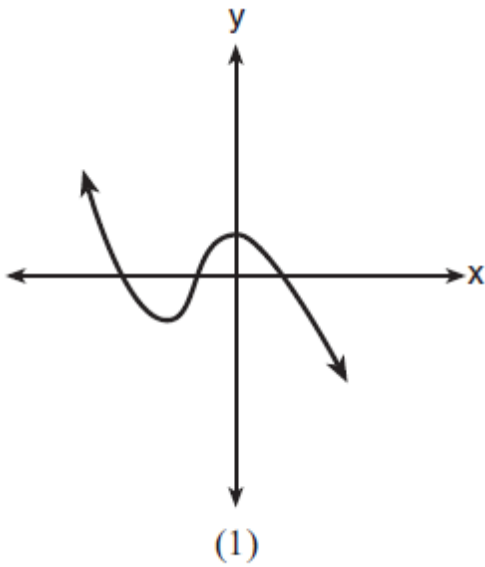
(c) 3.25

(d) 10.25

$$5 - -5.25 = 10.25$$

4.) Which graph has the following characteristics?

- Four real zeros
- as $x \rightarrow -\infty$, $f(x) \rightarrow -\infty$
- as $x \rightarrow \infty$, $f(x) \rightarrow -\infty$



5.) A 4th degree polynomial has zeros -5 , 3 , i and $-i$.

Which graph could represent the function defined by this polynomial?

