

# Practice Test

1. Given the polynomial  $5x^2 + 6x^4 + 7$

Standard Form:  $6x^4 + 5x^2 + 7$

Degree:  $4$


Number of Terms:  $3$

Leading Coefficient:  $6$

Constant:  $7$

End Behavior:  $x \rightarrow -\infty \quad y \rightarrow \infty$

$x \rightarrow \infty \quad y \rightarrow \infty$

Sketch: 

2. Given the polynomial  $9 - x$

Standard Form:  $-x + 9$

Degree:  $1$


Number of Terms:  $2$

Leading Coefficient:  $-1$

Constant:  $9$

End Behavior:  $x \rightarrow -\infty \quad y \rightarrow \infty$

$x \rightarrow \infty \quad y \rightarrow -\infty$

Sketch: 

3. Given the polynomial  $2^6 - x^2 + 4x^5$

Standard Form:  $4x^5 - x^2 + 2^6$  OR  $4x^5 - x^2 + 64$

Degree:  $5$

Number of Terms:  $3$

Leading Coefficient:  $4$

Constant:  $2^6$  OR  $64$

End Behavior:  $x \rightarrow -\infty \quad y \rightarrow -\infty$

$x \rightarrow \infty \quad y \rightarrow \infty$

Sketch: 

4. Given the polynomial  $3 \cdot 4 - 2x^3$

Standard Form:  $-2x^3 + 3 \cdot 4$  OR  $-2x^3 + 12$

Degree:  $3$


Number of Terms:  $2$

Leading Coefficient:  $-2$

Constant:  $3 \cdot 4$  OR  $12$

End Behavior:  $x \rightarrow -\infty \quad y \rightarrow \infty$

$x \rightarrow \infty \quad y \rightarrow -\infty$

Sketch: 

5. Write a polynomial in standard form that has a degree of three, two terms, a constant of six, and a leading coefficient of negative two.

$-2x^3 + 6$

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

$f(3) = -48$

$f(-2) = 2$

$f(1/3) = \approx 6.3209$

7. Given the function  $g(x) = 6 - x^3 + 0.75x$

$g(4) = -55$

$g(-3) = 30.75$

$g(2/3) = \approx 6.2037$

8. Give three example numbers in the interval  $4 < x \leq 7$  or write none.

$1, 2, 3$

9. Give three example numbers in the interval  $-9 \leq x < -6$  or write none.

$-5, -4, -3$

10. Given the graph of  $h(x)$

$$h(5) = \underline{7}$$

$$h(\underline{-4}) = -2$$

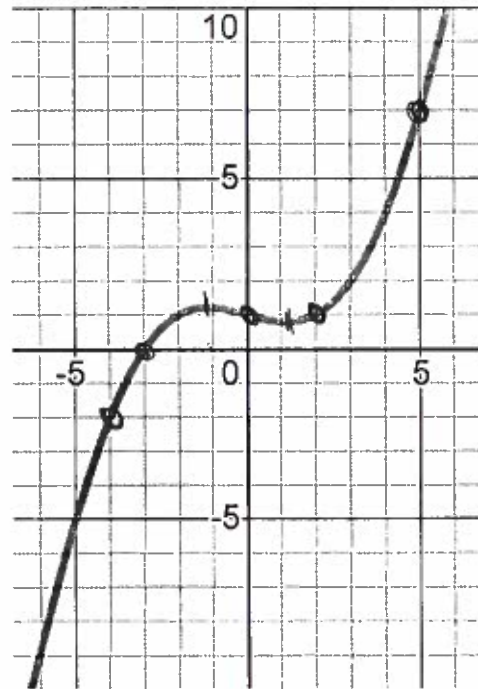
$$h(2) = \underline{1}$$

$$h(\underline{-3}) = 0$$

$$h(0) = \underline{1}$$

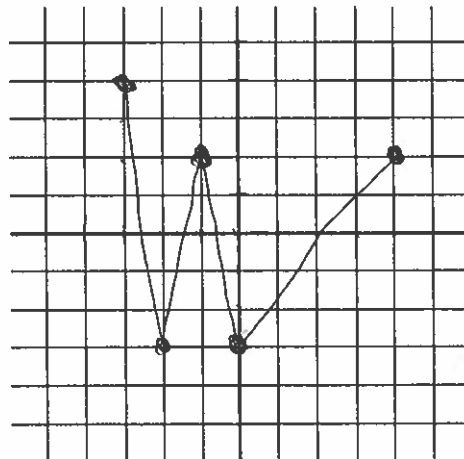
Use inequality notation to describe where the graph is positive:  $\underline{-3 < x}$

Use inequality notation to describe where the graph is increasing:  $\underline{x < -1.2 \text{ and } 1.2 < x}$



11. Given the table below, plot the points and connect the dots to reveal the graph.

x	f(x)
4	2
-1	2
-3	4
0	-3
-2	-3



12. Write a linear function  $f(x)$  that represents the graph below.

$$f(x) = \underline{-2.6x + 9.9}$$

$$\frac{\Delta y}{\Delta x} = \frac{3.14 - 1.06}{2.6 - 3.4} = \underline{-2.6} \text{ slope}$$

$$y = mx + b$$

$$(-0.5) = (-2.6)(4) + b$$

$$-0.5 = -10.4 + b$$

$$\underline{9.9} = b$$

y-intercept

