

Spring BM 2 Review 3

Simplify. Write "undefined" for expressions that are undefined.

$$1) \begin{bmatrix} 6 & -5 & 4 \\ -2 & 5 & 4 \end{bmatrix} \cdot \begin{bmatrix} 0 & 0 \\ -6 & -4 \end{bmatrix}$$

$$2) \begin{bmatrix} 0 \\ -3 \\ 5 \\ -6 \end{bmatrix} + \begin{bmatrix} -4 \\ 4 \\ -2 \\ 0 \end{bmatrix} - \begin{bmatrix} 4 \\ -2 \\ 4 \\ -1 \end{bmatrix}$$

$$3) \begin{bmatrix} 4 & -5 \\ -3 & 3 \end{bmatrix} \cdot \begin{bmatrix} 2 & -4 & -4 \\ 6 & -3 & 0 \end{bmatrix} - \begin{bmatrix} 3 & 5 & 0 \\ -2 & 2 & 1 \end{bmatrix}$$

$$4) \begin{bmatrix} 0 & -4 \\ -5 & -3 \\ -6 & -5 \end{bmatrix} \cdot \left(\begin{bmatrix} 6 & 2 \\ -6 & -2 \end{bmatrix} - \begin{bmatrix} -6 & -3 \\ -1 & -2 \end{bmatrix} \right)$$

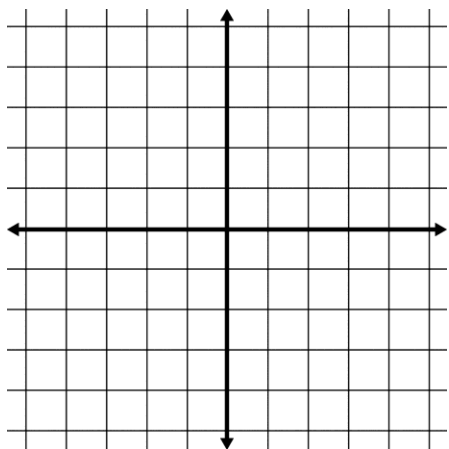
Evaluate each determinant.

$$5) \begin{vmatrix} -3 & 0 & -4 \\ -5 & -1 & -3 \\ -5 & -4 & 0 \end{vmatrix}$$

$$6) \begin{vmatrix} -5 & 2 \\ 2 & -3 \end{vmatrix}$$

GRAPH EACH POLYNOMIAL FUNCTION and list all of the characteristics.

$$7) f(x) = x^4 - 10x^2 + 9 ; \text{ Roots} = \pm 3, \pm 1$$



Local Minimum: _____

Local Maximum: _____

Y-Intercept: _____

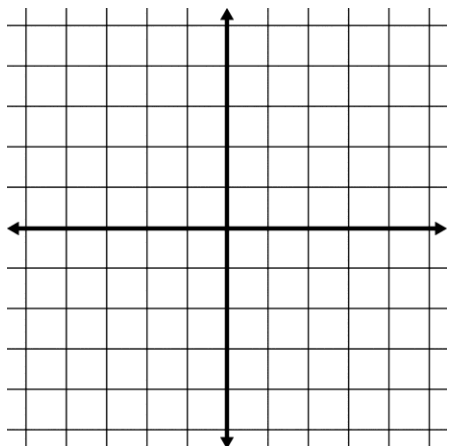
End Behavior: _____

Domain: _____ Range: _____

Increase: _____

Decrease: _____

8) $f(x) = -x^3 + 13x + 12$; Roots = $-1, 4, -3$



Local Minimum: _____

Local Maximum: _____

Y-Intercept: _____

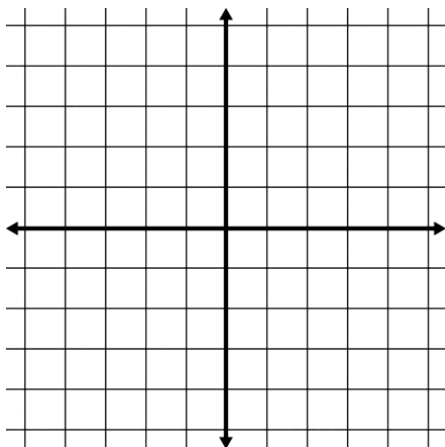
End Behavior: _____

Domain: _____ Range: _____

Increase: _____

Decrease: _____

9) $f(x) = -x^2 - 4x + 5$; Roots = $-5, 1$



Local Minimum: _____

Local Maximum: _____

Y-Intercept: _____

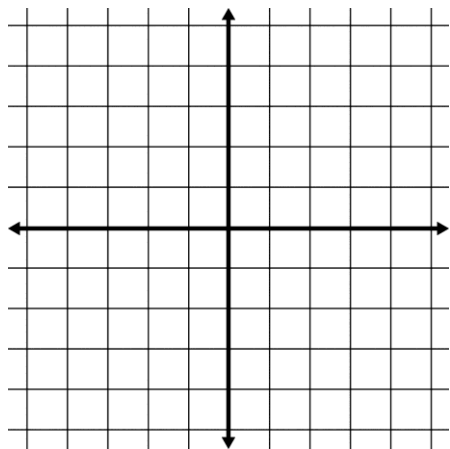
End Behavior: _____

Domain: _____ Range: _____

Increase: _____

Decrease: _____

10) $f(x) = x^5 - 3x^4 - 4x^3$; Roots = 0 mult. of 3, -1, 4



| |
|----------------------------|
| Local Minimum: _____ |
| Local Maximum: _____ |
| Y-Intercept: _____ |
| End Behavior: _____ |
| Domain: _____ Range: _____ |
| Increase: _____ |
| Decrease: _____ |

11) A coin is flipped 11 times. What is the probability of getting at least 9 heads?

12) You just took your science benchmark. Each question had 5 answer choices. What is the probability you got exactly 15 of the 20 questions correct?

13) Everyone in your math class of 8 students has taken the driving test. The average passing rate is 81%. What is the probability that more than 1 classmates passed the test?