



Quiz 3.2 – Polynomial Functions

1. (1 point) —alfredLibrary/AUCI/chapter3/lesson2/prob1p.pg—

Factor to find the **EXACT** zeros (x -intercepts) of the function below. If there is more than one zero, then enter them as a comma-separated list. Do not round your answers.

$$f(x) = (x^2 + 2x - 5)(x^3 + 0x^2 - 4x)$$

$$x = \underline{\hspace{2cm}}$$

2. (1 point) —alfredLibrary/AUCI/chapter3/lesson2/quiz/question11pet.pg—

Compute each of the following for the polynomial

$$f(x) = -7x^8 + 8x^5 + 5x^3 - 4x.$$

(a) $f'(x) = \underline{\hspace{2cm}}$

(b) $f''(x) = \underline{\hspace{2cm}}$

(c) $f'(5) = \underline{\hspace{2cm}}$

3. (1 point) —alfredLibrary/AUCI/chapter3/lesson2/quiz/question4pet.pg—

Find the critical points of the function

$$f(x) = 2x^3 - 3x^2 - 72x.$$

If there is more than one critical point, then enter your answers separated by commas.

$$x = \underline{\hspace{2cm}}$$

4. (1 point) —alfredLibrary/AUCI/chapter3/lesson2/quiz/question3pet

Evaluate each of the following limits to determine the end behavior of the specified polynomial. If the limit is ∞ , then enter 'INF', and if the limit is $-\infty$, then enter '-INF'.

(HINT: You only need to look at the term with the highest power.)

(a) $\lim_{x \rightarrow \infty} (7x^5 + 11x - 4) = \underline{\hspace{2cm}}$

(b) $\lim_{x \rightarrow -\infty} (7x^5 + 11x - 4) = \underline{\hspace{2cm}}$

(c) $\lim_{x \rightarrow \infty} (-4x^9 + 7x^3 - 5) = \underline{\hspace{2cm}}$

(d) $\lim_{x \rightarrow -\infty} (-4x^9 + 7x^3 - 5) = \underline{\hspace{2cm}}$