QUIZ 4 Math 304-06 Print your name _____
Sept. 29 (Oct. 2, sadly), 2023

No consultation!—that includes no electronics.

(1) (10 points) $\mathbb{R}^n$ is a type of vector space. Name two other types of vector space (you may use their symbolic names).

(2) (10 points) In the polynomial vector space $\mathbb{P}_2$, are the polynomials

$$p(x) = x^2 - 3x + 1, \quad q(x) = 2x^2 - 4x - 1, \quad r(x) = x^2 - x - 2$$

linearly independent? Justify your answer.

(3) (10 points) Let $S = \{p(x) \in \mathbb{P}_3 : p(1) = 0\}$. Is S a subspace of $\mathbb{P}_3$? Justify your answer.