

Problem 1 Consider the function $f : \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = 10x^2 + 9x + 2$. The name of the function is \boxed{f} .

Feedback(attempt): Remember that the function is named before the colon when the function's domain and codomain are given.

Problem 1.1 What is the rule that defines $f(x)$? x is mapped to $\boxed{10x^2 + 9x + 2}$.

Feedback(attempt): Remember that the rule to define $f(x)$ is the function equation that is given after the “=” sign and containing the x .

Problem 1.1.1 $f(-2) = \boxed{24}$.

Feedback(attempt): Remember that the notation $f(x)$ is denoting the x as the placeholder for the input; so $f(-2)$ means you should substitute -2 wherever there is an x in the rule for $f(x)$.

Problem 2 Consider the function $f : \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = 7x^2 - 6x + 1$. The name of the function is \boxed{f} .

Feedback(attempt): Remember that the function is named before the colon when the function's domain and codomain are given.

Problem 2.1 What is the rule that defines $f(x)$? x is mapped to $\boxed{7x^2 - 6x + 1}$.

Feedback(attempt): Remember that the rule to define $f(x)$ is the function equation that is given after the “=” sign and containing the x .

Problem 2.1.1 $f(4) = \boxed{89}$.

Feedback(attempt): Remember that the notation $f(x)$ is denoting the x as the placeholder for the input; so $f(4)$ means you should substitute 4 wherever there is an x in the rule for $f(x)$.

Problem 3 Consider the function $f : \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = -x^2 + 9x - 3$. The name of the function is f.

Feedback(attempt): Remember that the function is named before the colon when the function's domain and codomain are given.

Problem 3.1 What is the rule that defines $f(x)$? x is mapped to $-x^2 + 9x - 3$.

Feedback(attempt): Remember that the rule to define $f(x)$ is the function equation that is given after the "=" sign and containing the x .

Problem 3.1.1 $f(5) =$ 17.

Feedback(attempt): Remember that the notation $f(x)$ is denoting the x as the placeholder for the input; so $f(5)$ means you should substitute 5 wherever there is an x in the rule for $f(x)$.