1. [8 points]

a. [3 points] Em, an employee at the *Math-tas-tíque Dog Boutique*, earns \$750 per week in salary and earns an additional 5% of her total sales that week (her *commission*). Write a formula for $M(x)$, the amount, in dollars, Em will earn in a week in which she is responsible for $\$x$ in sales.

$M(x) =$ _____

b. [3 points] Compute the value of $M^{-1}(1000)$ and describe its meaning in the context of the problem.
Show all work. Give your final answer in decimal form, NOT exact form.

$M^{-1}(1000) =$ _____

Meaning:

c. [2 points] Let $R(w)$ be the function giving the dollar amount of Em's sales in the wth week of 2023. Choose the best description of the meaning of $M(R(23))$ from the choices below.

◯ A. The week in which Em makes \$23 in commission.

◯ B. The amount of commission Em makes in the 23rd week of 2023.

◯ C. The total amount Em gets paid in 2023.

◯ D. The total amount Em gets paid in in the 23rd week of 2023.

◯ E. This doesn't make sense because we cannot plug a number of weeks into the function M.