6. [10 points] A local organic farm sells chicken eggs. Consider the following functions.

- $G(k)$ is the number of eggs produced in a day when the farm has k healthy chickens.
- $R(z)$ is the daily egg revenue (in dollars) the farm receives when it produces z eggs that day.

Throughout this problem, assume that the functions G and R are invertible.
For each of the sentences (a)-(e) below, fill in the blank with the <u>one</u> expression from the list of "possible answers" given below that makes the statement true.

No work or explanation is necessary for this problem.

Possible Answers:

10	$R^{-1}(10)$	$G(G(10))$	$G(R^{-1}(10))$
$G(10)$	$R(G(10))$	$R^{-1}(G(10))$	$R^{-1}(G^{-1}(10))$
$R(10)$	$G(R(10))$	$G^{-1}(R(10))$	
$G^{-1}(10)$	$R(R(10))$	$R(G^{-1}(10))$	$G^{-1}(R^{-1}(10))$

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a. [2 points]
If the farm produced 10 eggs today, then its daily egg revenue today was $R(10)$ dollars.

b. [2 points]
If the farm produced 10 eggs today, then there were $G^{-1}(10)$ healthy chickens.

c. [2 points]
Today the farm had 10 healthy chickens, so its daily egg revenue was $R(G(10))$ dollars.

d. [2 points]
If the farm produced $R^{-1}(10)$ eggs today, then its daily egg revenue was 10 dollars.

e. [2 points]
If the farm's daily egg revenue today was \$10, then there were $G^{-1}(R^{-1}(10))$ healthy chickens.