1. [10 points] Some values of the invertible, differentiable function $G(t)$ are shown in the table below, along with some values of $G'(t)$, the **derivative** of $G(t)$.

t	0	1	2	3	4	5	6
$G(t)$	0	2	5	7	8	10	11
$G'(t)$	0	5	1	2	1	3	0

For parts **a**. – **d**., find the **exact** numerical values, or write DNE if the value does not exist. Your answers should not include the letter G, but you do not need to simply. *Show your work.*

a. [2 points] Let $P(t) = t^3 G(t)$. Find $P'(2)$.

Answer: $P'(2) =$ _____

b. [2 points] Let $A(t) = \dfrac{G(3t+2)}{2t+1}$. Find $A'(1)$.

Answer: $A'(1) =$ _____

c. [2 points] Let $K(t) = G^{-1}(t)$. Find $K'(2)$.

Answer: $K'(2) =$ _____

d. [2 points] Let $R(t) = \ln(G(t))$. Find $R'(5)$.

Answer: $R'(5) =$ _____

e. [2 points] Gabby the gopher is furiously digging an underground tunnel. Suppose $G(t)$ gives the length in meters of Gabby's tunnel t hours after she started digging at 6am.

Fill in the blank with a number to give a practical interpretation of the fact that $G'(5) = 3$.

Gabby's tunnel was about _____ *meters longer at 11:05am than it was at 10:55am.*