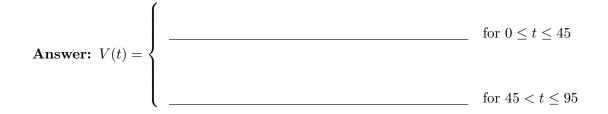
- 1. [8 points] The Amazing Wanda is performing a magic act.
  - **a**. Let V(t) be the volume, in decibels (dB), of the audience's applause t seconds after the beginning of the act.
    - i. [2 points] At time t = 0, the audience is already clapping at a volume of 52 dB. During Wanda's first trick, which lasts 45 seconds, the volume of the audience's applause increases at a constant rate of 0.4 dB per second. Write a formula for the function V(t) during the first trick.

**Answer:** 
$$V(t) =$$
 \_\_\_\_\_ for  $0 \le t \le 45$ 

ii. [4 points] During Wanda's second trick, which begins at t = 45 and lasts until the end of the act at time t = 95, the volume of the audience's applause increases by 1.2% every second. Write a piecewise formula for the function V(t) on the interval [0,95]. Make sure that V(t) is a continuous function.



b. [2 points] A few minutes after her act, Wanda returns to the stage for an encore performance. Let W(s) be the volume, in dB, of the audience's applause s seconds after the encore begins. A table of some values of W(s) is given below.

s	0	2	3
W(s)	3.00	3.60	4.32

Could W(s) be an exponential function? Circle your answer below. Show your work to justify your answer.