



# Quiz

Name: \_\_\_\_\_

1. The length  $L$  of a bridge increases as the temperature  $T$  increases. The table gives the length of the bridge in feet in terms of the temperature in  $^{\circ}\text{F}$ . Estimate  $L'$ , the rate of change of  $L$  in with respect to  $T$ , at the time when  $T = 75^{\circ}$ .

Answer: \_\_\_\_\_

T	L
74.4	132.78
74.6	132.90
74.8	133.02
75.0	133.14
75.2	133.26
75.4	133.38
75.6	133.50

2. The volume of a circular cylinder of height 4 and radius 4 is  $V = 4\pi r^2$ .  
a. Graph  $V$  as a function of  $r$ .

b. Estimate  $V'$ , the rate of change of  $V$  with respect to  $r$ , at the point where  $r = 2$ .

Answer: \_\_\_\_\_

c. How close to the correct answer do you think your answer to part b is? Justify your claim.