

Name:

Sec. 2.1 - Tangent and velocity problems

Math 251 – Fall 2018

Section 2.1

$t$ (mins)	36	38	40	42	44
Heartbeats	2530	2661	2806	2948	3080

1. A cardiac monitor is used to measure the heart rate of a patient after surgery. It compiles the number of heartbeats after  $t$  minutes. When the data in the table is graphed the tangent line represents the heart rate in beats per minute. Use the data to estimate the patient's heart rate after 42 minutes using the secant line between the points with the given values of  $t$

(a)  $t = 36$  and  $t = 42$

(b)  $t = 38$  and  $t = 42$

(c)  $t = 40$  and  $t = 42$

(d)  $t = 42$  and  $t = 44$ .

What are your conclusions?