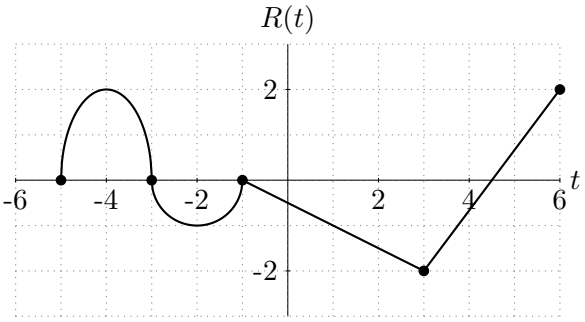
1. [14 points] The graph of a function $R(t)$ is given below.



You do not need to show your work on this problem.

a. [3 points] Using **interval** notation, write the t-values where R is increasing and the t-values where R is decreasing.

R is increasing on _____

R is decreasing on _____

b. [3 points] Using **inequalities**, write the t-values where R is concave up and the t-values where R is concave down.

R is concave up for _____

R is concave down for _____

c. [2 points] Find the average rate of change of R between $t = -2$ and $t = 3$.

The average rate of change is _____

d. [6 points] On the axes below, sketch a well-labeled graph of the piecewise-defined function

$$P(t) = \begin{cases} R(t+2)+1 & \text{for } -4 \le t < 1 \\ -2t+5 & \text{for } 1 \le t \le 4. \end{cases}$$