## Miss Gulch Rides From Her House to Dorothy's Farm (and Back)

Given below is the graph of the function $s(t)$. It represents the distance, in hectometers, of Miss Gulch from her house while riding on her creaky bike to Dorothy's farm and going back home after a little while. Also shown is the graph of $v(t) = s'(t)$, the velocity of Miss Gulch in hectometers per minute at any time t. (One hectometer is a little more than a football field in length.) Describe her trip in as much detail as possible. Make connections between the two graphs, especially at the marked points.

Distance $s(t)$ Miss Gulch is from her house (hectometers)

Velocity $v(t) = s'(t)$ of Miss Gulch (hectometers per minute)
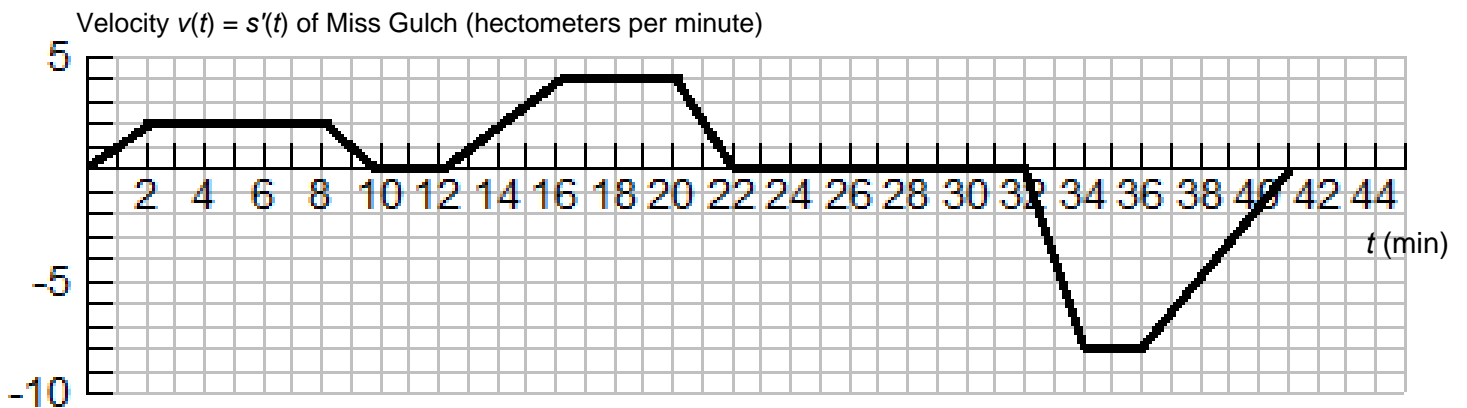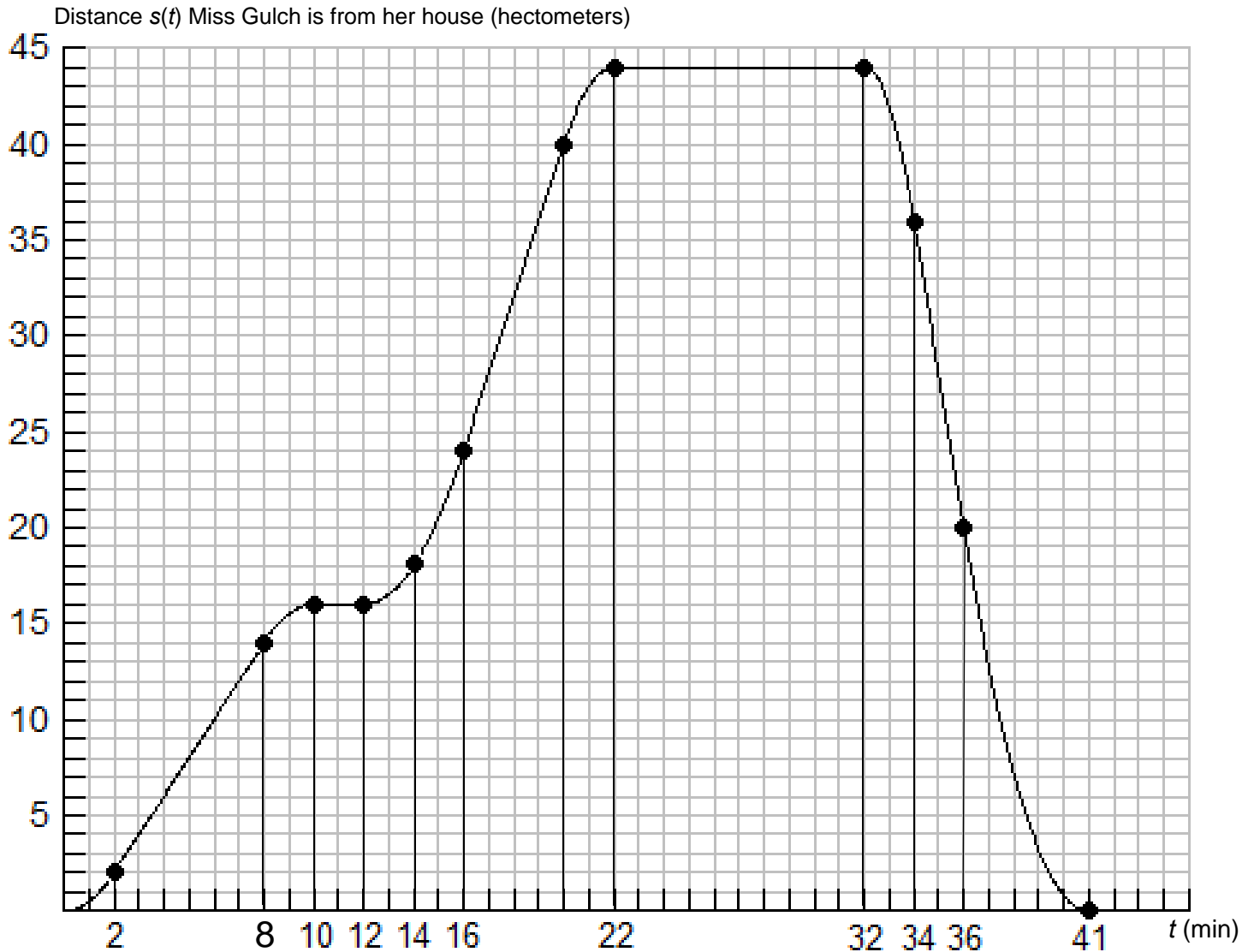
Graph the derivative f' of each function f on the same set of axes.

1

2

3
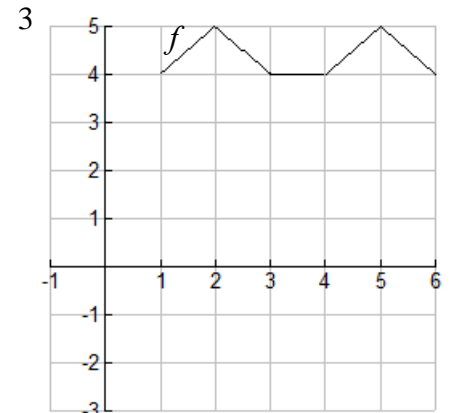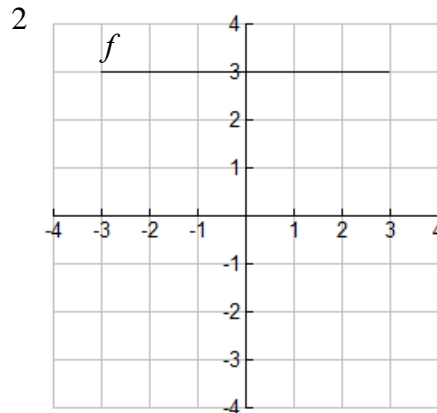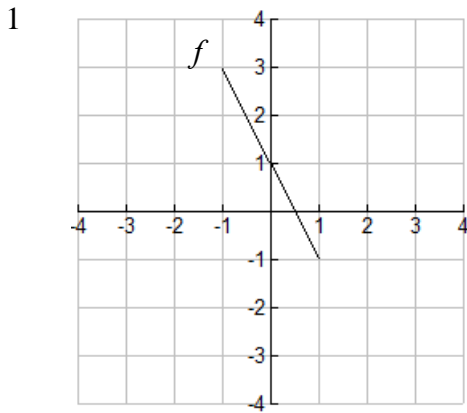
Match the function in 4-7 with one of the derivatives I through VIII.

4

5

6

7

(I)

(II)

(III)

(IV)

(V)

(VI)

(VII)

(VIII)