POSITION, VELOCITY, ACCELERATION

Given a particle on a graph of a function representing position.
Draw the first and second derivatives to answer the following questions.
          f(x) = s(t)   g(x) = v(t)   h(x) = a(t)

Consider changing the graph to parametric form with x(t) = t, y(t) = f(t). At this time you may also graph f(x) to show students we are graphing the same function but in different formats.
In parametric form enter x1(t) = f(t), y1(t) = 2, . . .to view the particle moving on a line.

1. When is velocity positive?

2. When is velocity negative?

3. When is the acceleration positive?

4. When is the acceleration negative?

5. When is the particle's speed up?

6. When is the particle changing direction?

7. Where is the particle in 2 seconds?   5 seconds?