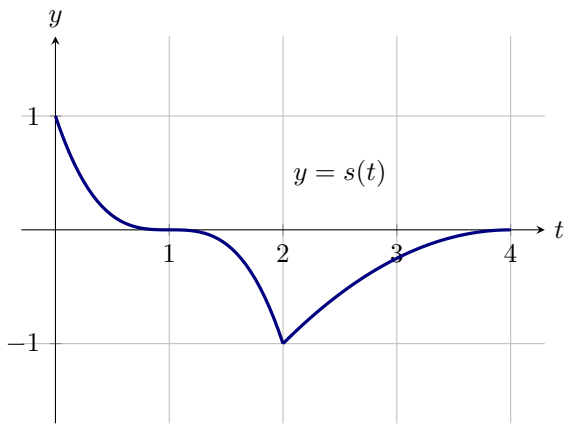
Exercise 1 *An object is moving along a horizontal line. Let $s(t)$ be the position function of the object, where s is measured in meters and t is measured in seconds. The graph of s is given below.*



Use the graph to answer the following questions.

$$s(0) = \boxed{1}$$

The object is at the origin at $t = \boxed{1}$ *and* $t = \boxed{4}$.

The object is furthest from the origin at times $t = \boxed{0}$ *and* $t = \boxed{2}$.

The average velocity of the object during the time interval $[0, 2]$ *is*

$$v_{av} = \boxed{-1}\, m/s.$$

For the following problems, remember that instantaneous velocity of the object at a given t is equal to the slope of the tangent line to the graph of s at the point $(t, s(t))$. Let $v(t)$ be the instantaneous velocity of the object at time t.

For each of the following pairs select the larger of the two.

Multiple Choice:

(a) $v(2.5)$ ✓

(b) $v(3.5)$

Multiple Choice:

(a) $v(0.2)$

(b) $v(0.8)$ ✓

Multiple Choice:

(a) $v(1.3)$ ✓

(b) $v(1.8)$

Select each interval on which the object has a positive instantaneous velocity.

Select All Correct Answers:

(a) $(0, 1)$

(b) $(1, 2)$

(c) $(2, 4)$ ✓