37. The position function for a particular object is $s = -12t^2 + 51t + 38$. Which statement is true?

(a) The velocity at time $t = 1$ is 27.
(b) The velocity is a constant.
(c) The initial position is 51.
(d) The initial velocity is -24.
(e) None of these

1—M—Answer: a

38. The position function for a particular object is $s = -\frac{35}{2}t^2 + 58t + 91$. Which statement is true?

(a) The initial velocity is -35.
(b) The velocity is a constant.
(c) The velocity at time $t = 1$ is 23.
(d) The initial position is $-\frac{35}{2}$.
(e) None of these

1—M—Answer: c

39. The position function for a particular object is $s = -\frac{29}{2}t^2 + 56t + 33$. Which statement is true?

(a) The velocity is a constant.
(b) The velocity at time $t = 1$ is 74.5.
(c) The initial position is 33.
(d) The initial velocity is -29.
(e) None of these

1—M—Answer: b

40. The position function for an object is given by $s(t) = 6t^2 + 240t$, where s is measured in feet and t is measured in seconds. Find the velocity of the object when $t = 2$ seconds.

1—O—Answer: 264 ft/sec

41. An object is dropped from a height of 128 feet.

a. When does it hit the ground?

b. What is the velocity of the object when it hits?

1—O—Answer: **a.** $2\sqrt{2}$ sec **b.** $-64\sqrt{2}$ ft/sec

42. The velocity function for an object is given by $s'(t) = -10t^2 + 4$, where s is measured in feet and t is measured in seconds. What is the instantaneous velocity when $t = 2$?

(a) -10 ft/sec
(b) -40 ft/sec
(c) -36 ft/sec
(d) 44 ft/sec
(e) None of these

1—M—Answer: c

43. The velocity function for an object is given by $s'(t) = -8t^2 + 6$, where s is measured in feet and t is measured in seconds. What is the instantaneous velocity when $t = 2$?

(a) -32 ft/sec
(b) 262 ft/sec
(c) -8 ft/sec
(d) -26 ft/sec
(e) None of these

1—M—Answer: d