NOVA SCOTIA CALCULUS 12 · UNIT D · 10 QUESTIONS

Applications of Derivatives — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A position function is s of t = 2t² + 6t . Find the velocity at t = 1 .**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A position function is s of t = 3t² + 4t . Find the velocity at t = 1 .**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A position function is s of t = 1t² + 3t . Find the velocity at t = 6 .**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **If velocity is positive, position is**

A increasing

B decreasing

C constant

D zero

Understand It with Pulse | Flag a mistake

5 **A tangent line at a point has slope equal to**

A the function value there

B the derivative at that point

C zero

D the second derivative there

Understand It with Pulse | Flag a mistake

6 **Related rates problems relate rates of change of**

A two constants

B a function and its graph only

C two or more changing quantities

D time and distance only

Understand It with Pulse | Flag a mistake

7 **A local maximum on a graph is a point higher than**

A all points ever

B the y intercept

C the x intercept

D nearby points

Understand It with Pulse | Flag a mistake

8

Concave up means the graph curves

A upward like a cup

B downward like a cap

C in a straight line

D in a circle

Understand It with Pulse | Flag a mistake

9

Concave down means the second derivative is

A positive

B negative

C zero

D undefined

Understand It with Pulse | Flag a mistake

10 **The first derivative test compares the sign of the derivative**

A at infinity only, far beyond any critical point the function could ever have

B at the y intercept

C on each side of a critical point

D at a discontinuity

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. 10
2. 10
3. 15
4. A
5. B
6. C
7. D
8. A
9. B
10. C

© 2026 Brett Robbins. All Rights Reserved.