DISC3

Find the first derivative of the following functions and evaluate at the given point. Show supporting work and underline your answer. Please use MathType or another form of math equation formatting software for your supporting work.

1. Quotient Rule- Round your answer to two decimal places.

 and evaluate at x = 3

1. Product and Power Rules- Your answer will be a large number.

 and evaluate at x = 2

DISC4

For both problems, show supporting work and underline your answer. Please use MathType.

1. Find the second derivative of  and evaluate it at x = 3
2. Find the equation of the line tangent to the following curve at x = 1. Write your answer in y = mx + b format.



DISC5

1. The x- and y-coordinates of a moving particle are given by two parametric equations.



Find the magnitude and direction of velocity at *t* = 3 sec. Distance is measured in meters. Round your answers to one decimal place and don't forget to use the degree symbol.

1. A 6-ft tall man walks away from a **2**\***7**-ft tall streetlight at **6** ft/sec. How fast is his shadow increasing when he is **4** feet from the streetlight?