Answer on Question #55741 – Math – Calculus

3. If f(x) is a function of x and df/dx exists at x = a, then f(x) is

A. continuous at x = 0 B.discontinuous at x = 0 C. continuous at x = a D. discontinuous at x = a

5. If y = arcsin x, then d/dx (y) is

6. If y = arcsin x, then dx/dy is

7. If y = arcsin x, then x is

Solution

3. If f(x) is a function of x and df/dx exists at x = a, then f(x) is **C.** continuous at x = a.

5. If $y = \arcsin(x)$, then

$\frac{d}{dx}(y) = \frac{d}{dx}(\arcsin(x)) = \frac{1}{\sqrt{1-x^2}}$, because it is a tabular integral.

6. If $y = \arcsin(x)$, then

$x = \sin(y) \rightarrow \frac{dx}{dy} = \frac{d}{dy}(\sin(y)) = \cos(y)$, because it is a tabular integral.

7. If $y = \arcsin(x),$ then $x = \sin(y)$.

Answer:

3. C. continuous at x = a

5. $\frac{d}{dx}(y) = \frac{1}{\sqrt{1-x^2}}$

6. $\frac{dx}{dy} = \cos(y)$

7. $x = \sin(y)$