PRINT Your Name:_____

Quiz 1 — January 17, 2014 – Section 7 – 12:00 – 12:50

Remove everything from your desk except this page and a pencil or pen.
The solution will be posted soon after the quiz is given.

Circle your answer. **Show your work. Your work must be correct and coherent. Check your answer.**
The quiz is worth 5 points.

Find $\int \frac{dx}{\sqrt{1-x^2}\arcsin x}$.

Answer: Let $u = \arcsin x$. Then $du = \frac{dx}{\sqrt{1-x^2}}$. The original integral is equal to

$$\int \frac{1}{u}du = \ln|u| + C = \boxed{\ln|\arcsin x| + C}.$$

Check: The derivative of the proposed answer is

$$\frac{1}{\arcsin x}\frac{1}{\sqrt{1-x^2}}. \checkmark$$