PRINT Your Name:_____

Remove everything from your desk except this page and a pencil or pen.

Circle your answer. **Show your work.** **Check** your answer.
The quiz is worth 5 points.

Find $\int \sqrt{\frac{1+x}{1-x}}\,dx$.

Answer: Multiply top and bottom by $\sqrt{1+x}$. The integral is equal to

$$\int \frac{1+x}{\sqrt{1-x^2}}\,dx = \int \frac{1}{\sqrt{1-x^2}} + \frac{x}{\sqrt{1-x^2}}\,dx = \boxed{\arcsin x - \sqrt{1-x^2} + C}.$$

Check. The derivative of the proposed answer is

$$\frac{1}{\sqrt{1-x^2}} + \frac{x}{\sqrt{1-x^2}} = \frac{1+x}{\sqrt{(1-x)(1+x)}} = \sqrt{\frac{1+x}{1-x}}. \checkmark$$