AP Calculus AB **Name** _____ **Score** _____

Test 5.6-5.7 Form A

1. Solve for x: $arc\sec(3x-\pi)=\frac{\pi}{3}$

2. Find $f'(x)$ *for* $f(x)=\frac{1}{3}arc\cot(\frac{t}{3})-\ln(t^2+9)$

3. Find any relative extrema for the function: $y=(\arccos x)-4x$

4. Evaluate the integral: $\int\frac{-6}{x^2+8x+20}dx$

5. Evaluate $\int\frac{3arc\cot x}{1+x^2}dx$.

6. Find the equation of the tangent line to the graph of the equation $\arctan x+\arctan y=\frac{\pi}{6}$ at the point $\left(\frac{\sqrt{2}}{2},\frac{\sqrt{2}}{2}\right)$.

7. Evaluate: $\int_{\frac{\sqrt{2}}{2}}^{1}\frac{1}{\sqrt{1-x^2}}$

8. Evaluate: $\csc(\arccos(\frac{\sqrt{7}}{5}))$

9. Evaluate $\int\frac{x-3}{2\sqrt{4-x^2}}dx$.

$\frac{2+\pi}{3}$

$-\frac{1+2t}{(t^2+9)}$

$\pm\frac{\sqrt{15}}{4}$ no extrema

$-3\arctan\left(\frac{x+4}{2}\right)+C$

$-\frac{3}{2}(arc\cot x)^2+C$

$y=-x+\sqrt{2}$

$\frac{\pi}{4}$

$\frac{5\sqrt{2}}{6}$

$-\frac{1}{2}\sqrt{4-x^2}-\frac{3}{2}\arcsin\left(\frac{x}{2}\right)+C$