

Calculus AB

5-7

Inverse Trigonometric Functions: Integration

Find or evaluate each integral. (pg 387)

$$2) \int \frac{dx}{\sqrt{1-4x^2}}$$

$$*) \int \frac{1}{x\sqrt{9x^2-1}} dx$$

$$10) \int \frac{1}{x\sqrt{x^4-4}} dx$$

Function	Derivative
$f(x) = \arcsin(x)$	$\frac{u'}{\sqrt{1-u^2}}$
$f(x) = \arccos(x)$	$\frac{-u'}{\sqrt{1-u^2}}$
$f(x) = \arctan(x)$	$\frac{u'}{1+u^2}$
$f(x) = \operatorname{arccsc}(x)$	$\frac{-u'}{ u \sqrt{u^2-1}}$
$f(x) = \operatorname{arcsec}(x)$	$\frac{u'}{ u \sqrt{u^2-1}}$
$f(x) = \operatorname{arccot}(x)$	$\frac{-u'}{1+u^2}$

$$38) \int_0^{\frac{1}{\sqrt{2}}} \frac{\arccos x}{\sqrt{1-x^2}} dx$$

Function	Derivative
$f(x) = \arcsin(x)$	$\frac{u'}{\sqrt{1-u^2}}$
$f(x) = \arccos(x)$	$\frac{-u'}{\sqrt{1-u^2}}$
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$f(x) = \operatorname{arccot}(x)$	$\frac{-u'}{1+u^2}$

$$31) \int_{-2}^2 \frac{dx}{x^2 + 4x + 13}$$

<p>Assignment: pg. 387 1-49 odd</p>
