INTEGRATION INVOLVING INVERSE TRIGONOMETRIC FUNCTIONS

1 Find: (a) $\int \frac{dx}{\sqrt{9-x^2}}$ (b) $\int \frac{dx}{9+x^2}$ (c) $\int \frac{-1}{\sqrt{16-x^2}}dx$

3 $\int \frac{x^2+2}{x^2+1}dx = \ldots$

A $x+\ln(x^2+1)+C$ **B** $x+\tan^{-1}x+C$ **C** $x-\ln(x^2+1)+C$ **D** $x-\tan^{-1}x+C$

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4 Find: **(a)** $\int \frac{dx}{x^2+4x+5}$ **(b)** $\int \frac{dx}{x^2-6x+10}$ **(c)** $\int \frac{dx}{\sqrt{3+2x-x^2}}$

4 Find: **(g)** $\int \frac{x^2}{\sqrt{1-x^2}}\,dx$ **(h)** $\int \frac{x+1}{\sqrt{4-x^2}}\,dx$ **(i)** $\int \frac{dx}{x^2+4x+6}$

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5 Evaluate: **(a)** $\int_0^{\sqrt{3}} \frac{dx}{9+x^2}$ **(b)** $\int_0^{\frac{1}{4}} \frac{dx}{\sqrt{1-4x^2}}$ **(c)** $\int_0^1 x\sqrt{1-x^2}\,dx$

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5 Evaluate: (h) $\int_0^{\frac{1}{2}} \frac{dx}{(1-x^2)^{\frac{3}{2}}}$ (i) $\int_0^4 \frac{dx}{x^2-2x+4}$

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5 Evaluate: **(m)** $\int_{-\frac{7}{4}}^{\frac{3}{4}} \frac{dx}{\sqrt{6-x-x^2}}$ **(n)** $\int_0^a \sqrt{a^2-x^2}\,dx$ **(o)** $\int_{\tan x}^{\cot x} \frac{dt}{1+t^2}$, $0 < x < \frac{\pi}{2}$

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