

# MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

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INTEGRATION STRATEGIES

Math 1001 Worksheet

FALL 2019

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**For practice only. Not to be submitted.**

1. The following integrals could use any of the techniques that we've introduced in this course. Determine the appropriate technique, and evaluate the integral.

(a)  $\int \frac{x}{\sqrt{x^2 + 4}} dx$

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

(c)  $\int \frac{1}{4x^2 - 12x + 13} dx$

(d)  $\int \frac{1}{4x^2 - 4x - 3} dx$

(e)  $\int \frac{1}{x[\ln(x)]^2} dx$

(f)  $\int x[\ln(x)]^2 dx$

(g)  $\int \tan^2(x) \sec^4(x) dx$

(h)  $\int \tan^2(x) \cot^2(x) dx$

(i)  $\int \tan^2(x) \cos^2(x) dx$

(j)  $\int x \tan^2(x) dx$