

University of Bahrain
Department of Mathematics
MATHS122: Calculus II
Spring 2016
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Worksheet 4: Trigonometric Substitution

Students' Name: _____

Find the following integrals:

1. $\int x^3 \sqrt{1-x^2} dx.$

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

3. $\int \frac{\sqrt{1+x^2}}{x} dx.$

4. $\int \sqrt{x^2 + 1} dx.$

5. $\int \frac{\sqrt{1 - (\ln x)^2}}{x \ln x} dx.$

6. $\int \sqrt{\frac{1-t}{t}} dx.$
(Hint: Let $t = x^2$)