# Revision For Math. 111
# 2nd Mid-Term Exam

**Q1** Evaluate: $\int \frac{\sqrt[3]{1+\sqrt[4]{x}}}{\sqrt{x}}\,dx$

**Q2** Evaluate: $\int \frac{1}{2+\cos x}\,dx$

**Q3** Evaluate: $\int \frac{x^{10}}{x^4-1}dx$

**Q4** Evaluate: $\int \tan^{-1} x\,dx$

**Q5** Find $y'$ for each of the following:

i) $y=5\sinh^{-1}(\sqrt{x})+\operatorname{sech}^{-1}x$

ii) $y=\cosh\left(\frac{1}{x}\right)+\tanh^{-1}(x^2)$

**Q6** Evaluate: $\int \tan^5 x\,dx$

**Q7** Evaluate: $\int \sin^4 x\,dx$

**Q8** Evaluate each of the following:

i) $\int \sqrt{25-x^2}\,dx$

ii) $\int x\sqrt{x^2+4}\,dx$

**Q9** Evaluate: $\int \tan^3 x \sec^5 x dx$

**Q10** Evaluate: $\int \sin^5 x \cos^2 x dx$

**Q11** Evaluate: $\int \frac{1}{x\sqrt{4-x^2}}\,dx$