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Williams College
Department of Mathematics and Statistics

MATH 140 : Calculus II

Problem Set 15 – due Thursday, April 23rd

INSTRUCTIONS: This assignment must be turned in by email on Tuesday at **9am** EDT (that's morning in Williamstown) by going to

`https://bit.ly/2RRu2aV`

You may submit photos or scans of your written work; please make sure your name appears on each page. (You can also try using the `scratchwork` app: `https://app.scratchwork.io/` to write up your HW.) Be prepared to discuss these problems in your upcoming small group meeting.

15.1 Read about the method of u-substitution and try the worksheet (see link on course website).

15.2 Evaluate $\int (3x^2 + 2x)e^{x^3+x^2}\,dx$

Solution video: `www.youtube.com/watch?v=b76wePnIBdU`

15.3 Evaluate $\int \sqrt{7x+9}\,dx$

Solution video: `www.youtube.com/watch?v=oqCfqIcbE10`

15.4 Evaluate $\int (2x+1)\sqrt{x^2+x}\,dx$

Solution video: `www.youtube.com/watch?v=r5XXDSOh5Nk`

15.5 Evaluate $\int \frac{(\ln x)^{10}}{x}\,dx$ and $\int \tan x\,dx$

Solution video: `www.youtube.com/watch?v=rsBALP8QNns`

15.6 Evaluate $\int \frac{4x^3}{x^4+7}\,dx$

Solution video: `www.youtube.com/watch?v=Zp5z0wa0kgo`

15.7 Evaluate $\int \frac{\pi}{x\ln x}\,dx$

Solution video: `www.youtube.com/watch?v=0LO64d4Y1qI`