Math 1B (9:30am – 10:20am)
Quiz 7 Version D
Fri Jun 4, 2010

SCORE: ___ / 30 POINTS

What month is your birthday ? ___ ___
What are the first 2 digits of your address ? ___ ___
What are the last 2 digits of your zip code ? ___ ___
What are the last 2 digits of your social security number ? ___ ___
[IF YOU DO NOT HAVE A SOCIAL SECURITY NUMBER, USE YOUR STUDENT ID NUMBER]

NO CALCULATORS ALLOWED

YOU MUST SHOW PROPER CALCULUS LEVEL WORK
(INCLUDING SANITY CHECKS WHERE RELEVANT) TO EARN FULL CREDIT

Find $\int \frac{x^2}{\sqrt{x^2-9}}\,dx$.

SCORE: ___ / 7 POINTS

SEE 9:30 VERSION C

★ FOR EACH QUESTION:
SUBTRACT $\frac{1}{2}$ IF MISSING "+C"
SUBTRACT $\frac{1}{2}$ FOR EACH MISSING ABSOLUTE VALUE

Find $\int \frac{x+5}{(x+1)(x-1)^2}\,dx$.

SCORE: ___ / 7 POINTS

SEE 7:30 VERSION A

Find $\int x(\ln x)^2\,dx$.

SCORE: ___ / 6 POINTS

SEE 7:30 VERSION A

Find $\int e^{4x}\sin 3x\,dx$.

$= -\frac{1}{3}e^{4x}\cos 3x + \frac{4}{9}e^{4x}\sin 3x - \frac{16}{9}\int e^{4x}\sin 3x\,dx$ (1½) (1½) (1)

SCORE: ___ / 6 POINTS

u	dv
e^{4x}	$+\ \sin 3x$
$4e^{4x}$	$-\ -\frac{1}{3}\cos 3x$
$16e^{4x}$	$+\ -\frac{1}{9}\sin 3x$

SO,

(1) $\frac{25}{9}\int e^{4x}\sin 3x\,dx = -\frac{1}{3}e^{4x}\cos 3x + \frac{4}{9}e^{4x}\sin 3x$

$\int e^{4x}\sin 3x\,dx = -\frac{3}{25}e^{4x}\cos 3x + \frac{4}{25}e^{4x}\sin 3x + C$ (½) (½)

Find $\int \frac{10-x^2}{x^2+2x-8}\,dx$.

SCORE: ___ / 4 POINTS

SEE 7:30 VERSION A