MATH 132 **EXAMINATION II** **FALL 2008**

This exam should have 18 questions . Part I will have 16 multiple choice questions , 5 points each . Part II will have 2 handgraded questions , 10 points each . Please check to see that your exam is complete . If you do not have a **PENCIL** to mark your card , please ask to borrow one from your proctor .

Write your **ID NUMBER** (not your SS number) on the six blank lines on the top of your answer card , using one blank for each digit . **Shade in the corresponding boxes below** . Also **Print your name at the top of your card** .

PART I : (80 points)

1) Using integration by parts evaluate $\int_0^{\frac{\pi}{2}} t \cdot cos(t)\, dt$.

A) $\frac{\pi}{3}$

B) $\frac{\pi-3}{6}$

C) $\frac{\pi}{2}$

D) $\frac{\pi-2}{2}$

E) $\frac{2\pi-1}{4}$

F) $\frac{\pi}{4}$

G) $\frac{3\pi-1}{2}$

H) $\frac{2\pi}{3}$

I) $\frac{3\pi-2}{2}$

J) $\frac{3\pi}{2}$

2) Evaluate the integral $\int_2^3 \frac{3x+3}{(x+2)(x-1)}\,dx$, by expressing the integrand as a sum of **partial fractions** .

A) ln(3)

B) $ln(4)$

C) $ln(5)$

$D)$ $3ln(2) - ln(5)$

$E)$ $ln(\frac{5}{2})$

$F)$ $\frac{ln(2)-ln(3)}{4}$

$G)$ $2ln(3) - 3ln(2)$

$H)$ $\frac{ln(5)-ln(3)}{2}$

$I)$ $2 + 2\ln(2)$

$J)$ $3 + 3\ln(3)$

3) Evaluate $\int_0^{\frac{\pi}{4}} \sqrt{sec^2(x) - 1}\;\; dx$.

A) 0.247658
B) 0.287654
$C)$ 0.346574
$D)$ 0.376598
$E)$ 0.412387
$F)$ 0.457653
$G)$ 0.486098
$H)$ 0.564876
$I)$ 0.598769
$J)$ 0.634298

4) Using the trigononmetric substitution $x = 5\tan(\theta)$, solve the integral $\int_0^5 \frac{x^2}{25+x^2}\,dx$.

A) 0.275745

B) 0.420062

C) 0.673051

D) 0.762346

E) 0.952134

F) 1.073009

G) 1.230506

H) 1.403038

I) 1.5230990

J) 1.7625006