HIGH SCHOOL ROUND ONE

- You will have

INTEGRAL #1

READY,

GET SET,...

2:00

INTEGRAL #1

$$\int_0^1 2012^{2012}$$

2:00

INTEGRAL #1

$$\int_0^1 2012 \quad {}^{2012}$$

$$= \left[2012 \cdot \frac{201}{201} \right]_0^1$$

$$= \boxed{\frac{2012}{201}}$$

INTEGRAL #2

READY,

GET SET,...

2:00

INTEG

2:00

INTEGRAL #2

$$\int_0^2 \cos \frac{\pi}{\ }$$

$$= \frac{\ }{\pi}\int_0^{\pi} \cos \qquad \left[\ = \frac{\pi}{\ } \qquad = \frac{\pi}{\ }\ \right]$$

$$= \frac{\ }{\pi}\Big[\sin \ \Big]_0^{\pi} = \frac{\ }{\pi}\left(\frac{\sqrt{\ }}{2} - 0\right)$$

$$= \boxed{\frac{\sqrt{\ }}{\pi}}$$

INTEGRAL #3

READY,

GET SET,...

2:00

INTEGRAL #3

$$\int_0^1 (5 \quad + \quad)(\quad + $$

2:00

INTEGRAL #3

$$\int_0^1 (5 \quad + \quad)(\quad + 5)$$

INTEGRAL #4

READY,

GET SET,...

2:00

INTEGRAL #4

$$\int_0^{\sqrt{\pi\ 2}} \sin(\ ^2)$$

2:00

INTEGRAL #4

$$\int_0^{\sqrt{\pi\ \ 2}} \sin(\ \ ^2)$$

$$= \frac{1}{2}\int_0^{\pi\ \ 2} \sin \qquad \left[\ = \ ^2 \qquad = 2 \ \right]$$

$$= \frac{1}{2}\Big[-\cos \ \ \Big]_0^{\pi\ \ 2}$$

$$= \boxed{\frac{1}{2}}$$

INTEGRAL #5

READY,

GET SET,...

2:00

INTEGRAL #5

$$\int_1^2 \frac{+}{\cdot \quad 2}$$

2:00

INTEGRAL #6

READY,

GET SET,...

2:00

INTEGRAL #6

$$\int_{\pi}^{\pi \quad 2} \frac{\cos}{1-\cos^2}$$

2:00

INTEGRAL #6

$$\int_{\pi}^{\pi\ \ 2} \frac{\cos}{1 - \cos^2}$$

$$= \int_{\pi}^{\pi\ \ 2} \frac{\cos}{\sin^2}$$

$$= \int_{1\ \ 2}^{1} \frac{1}{\ \ ^2} \qquad \left[\ = \sin \qquad\qquad = \cos \ \right]$$

$$= \left[-\frac{1}{\ } \right]_{1\ \ 2}^{1} = \boxed{1}$$

Q H

INTEGRAL #7

READY,

GET SET,…

2:00

INTEGRAL #7

$$\int_0^1 \left(\sqrt{} + \sqrt{} \right)$$

2:00

INTEGRAL #7

$$\int_0^1 \left(\sqrt{\quad} + \sqrt{\quad} \right)$$

$$= \int_0^1 \left(\qquad + \qquad \right)$$

$$= \left[\frac{\quad}{\quad} + \frac{\quad}{\quad} \right]_0^1$$

$$= \boxed{1}$$

INTEGRAL #8

READY,

GET SET,...

2:00

INTEGRAL #8

2:00

INTEGRAL #8

$$\int_{\pi}^{\pi} \sec \ (\tan \ - \sec \ )$$

$$= \int_{\pi}^{\pi} (\sec \ \tan \ - \sec^2 \ )$$

$$= \left[\sec \ - \tan \ \right]_{\pi}^{\pi}$$

$$= \left(2 - \sqrt{\ }\right) - \left(\sqrt{2} - 1\right) = \boxed{- \sqrt{\ } - \sqrt{2}}$$

INTEGRAL #9

READY,

GET SET,...

2:00

INTEGRAL #9

$$\int_0^1 \sqrt{}\,(\ \sqrt{} + 1)$$

2:00

INTEGRAL #9

$$\int_0^1 \sqrt{\ }\left(\ \sqrt{\ } + 1\right)$$

$$= \frac{2}{\ } \int_1^2 \qquad \left[\ = \sqrt{\ } + 1 \qquad = \frac{\ }{2}\sqrt{\ } \ \right]$$

$$= \frac{2}{\ } \left[\frac{\ }{\ } \right]_1^2$$

$$= \boxed{\frac{\text{[illegible]}}{2}}$$

INTEGRAL #10

READY,

GET SET,...

2:00

INTEGRAL #10

$$\int_{1} \left(\quad + \frac{1}{\quad} \right)^{2}$$

2:00

INTEGRAL #11

READY,

GET SET,...

2:00

INTEGRAL #11

$$\int_0^{\pi} \quad {}^{2} \quad \cos$$

2:00

INTEGRAL #12

$$\int_{-}^{1} (\quad + \quad)\sqrt{\quad + \quad}$$

2:00

INTEGRAL #12

$$\int_{-}^{1} (\quad + \quad) \sqrt{\quad + \quad}$$

$$= \int_{-}^{1} (\quad + \quad) \quad ^{2}$$

$$= \int_{0} \quad ^{2} \qquad \left[\quad = \quad + \quad \qquad = \quad \right]$$

$$= \left[\frac{2 \quad ^{2}}{\quad} \right]_{0} = \boxed{\frac{\quad}{\quad}}$$

INTEGRAL #13

READY,

GET SET,...

2:00

INTEGRAL #13

$$\int_0^{\pi} \left(\cos \quad - \sin \quad\right)$$

2:00

INTEGRAL #13

$$\int_0^\pi \left(\cos \quad - \sin \quad\right)$$

$$= \int_0^\pi \left(\cos^2 \quad + \sin^2 \quad\right)\left(\cos^2 \quad - \sin^2 \quad\right)$$

$$= \int_0^\pi 1 \cdot \left(\cos^2 \quad - \sin^2 \quad\right) \qquad = \int_0^\pi \cos 2$$

$$= \left[\frac{\sin 2}{2}\right]_0^\pi \quad = \boxed{\frac{\sqrt{\quad}}{\quad}}$$

INTEGRAL #14

READY,

GET SET,...

2:00

2:00

INTEGRAL #14

$$\int_0^1 2\ {}^2 \cdot \qquad \cdot \qquad \cdot 5\ {}^5$$

$$= \int_0^1 120\ {}^1$$

$$= \left[120 \cdot \frac{\ {}^{15}}{15}\right]_0^1 = \left[\quad {}^{15}\right]_0^1$$

$$= \boxed{}$$

INTEGRAL #15

READY,

GET SET,...

2:00

3

L #15

2:00

N

Q H

INTEGRAL #15

$$\int_0^1 \sqrt{\quad 10\ \ 000000010\ \ 010\ \ 010\ \ 010\ \ 01000}$$

THANKS FOR PLAYING

LET'S EAT!

(YOU HAVE TWO MINUTES TO FINISH YOUR FOOD)

THE FINAL ROUND BEGINS AFTER DINNER