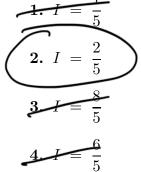
This print-out should have 9 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

001 10.0 points

Evaluate the integral

$$I = \int_0^{\pi/2} 3 \sin^3(x) \cos^2(x) dx$$
.



$$5. 1 = \frac{4}{5}$$

002 10.0 points

$$\cos^2 x = (-\sin^2 (x)$$

Determine the indefinite integral

$$I = \int \sin^2 x \cos^3 x \, dx \, .$$

$$2. I = -\frac{1}{3}\cos^3 x + \frac{1}{5}\cos^5 x + C$$

$$\mathcal{J} I = \frac{1}{5}\cos^3 x + \frac{1}{3}\sin^5 x + C$$

$$I = -\frac{1}{5}\sin^3 x - \frac{1}{3}\cos^5 x + C$$

$$\int I = \frac{1}{5}\cos^3 x - \frac{1}{3}\sin^5 x + C$$

$$8. I = \frac{1}{3}\sin^3 x + \frac{1}{5}\sin^5 x + C$$

003 10.0 points

Evaluate the indefinite integral

$$I = \int 8\cos^4 2t \, dt \,.$$

$$I = 3t - \cos 4t + \frac{1}{8}\cos 8t + C$$

$$2.1 = 3t + \cos 4t + \frac{1}{8}\cos 8t + C$$

3.
$$I = 3t + \sin 4t - \frac{1}{8}\sin 8t + C$$

$$\boxed{4.} = 3t + \sin 4t + \frac{1}{8}\sin 8t + C$$

$$I = 3t - \sin 4t + \frac{1}{8}\sin 8t + C$$

$$6 = 3t + \cos 4t - \frac{1}{8}\cos 8t + C$$

004 10.0 points

Determine the integral

$$I = \int (3\sin(\theta) - 2\sin^3(\theta)) d\theta.$$

$$I = \cos(\theta) - \frac{2}{3}\cos^3(\theta) + C$$

$$\sum I = \cos(\theta) + \frac{2}{3}\sin^3(\theta) + C$$

(3.)
$$I = -\cos(\theta) - \frac{2}{3}\cos^3(\theta) + C$$

$$I = -\cos(\theta) + \frac{2}{3}\cos^3(\theta) + C$$

$$\sum_{i} I = \cos(\theta) - \frac{2}{3}\sin^3(\theta) + C$$

005 10.0 points

Evaluate the integral

$$I = \int_0^{\pi/2} (4\cos^2(x) + \sin^2(x)) dx$$

$$\boxed{1. I = \frac{5}{4}\pi}$$

$$2. I = 5$$

$$-3. I = 5\pi$$

$$-4. I = \frac{5}{2}$$

$$\frac{5. I - \frac{5}{4}}{}$$

6.
$$I = \frac{5}{2}\pi$$

006 10.0 points

Find the value of the integral

$$I = \int_0^{\frac{\pi}{4}} \sec^2 x (3 - 2 \tan x) \, dx$$
.

Enter your answer as a decimal with four significant digits.

007 10.0 points

Find the value of the definite integral

$$I = \int_0^{\pi/4} \left(8 \sec^4(x) - 5 \sec^2(x) \right) \tan(x) \, dx \,.$$

$$1. I = \frac{7}{2}$$

$$-2. I = \frac{11}{2}$$

4.
$$I = 4$$

5.
$$I = \frac{9}{2}$$

008 10.0 points

Evaluate the integral

$$I = \int_0^{\pi/3} \frac{\sec(x)\tan(x)}{5 + 2\sec(x)} dx$$
.

$$I = -2\ln\left(\frac{7}{5}\right)$$

$$\cancel{S} \cdot I = -2\ln\left(\frac{9}{10}\right)$$

$$\int I = -\frac{1}{2} \ln \left(\frac{9}{7} \right)$$

$$6I = 2\ln\left(\frac{9}{10}\right)$$

009 10.0 points

Find the value of

$$I = \int_0^{\pi/4} 4 \tan^4 x \, dx \, .$$

$$(1.) T = \frac{1}{3}(3\pi - 8)$$

$$2. I = \frac{1}{3}(3\pi - 4)$$

8.
$$I = \frac{1}{2}(3\pi - 2)$$

$$I = \frac{1}{2}(3\pi - 8)$$

6.
$$I = \frac{1}{2}(3\pi - 4)$$

$$I = \frac{1}{3}(3\pi - 2)$$