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Homework 26

The **due date** for this homework is **Tue 7 May 2013 12:00 AM EDT**.

Question 1

$$\int_{x=-1}^1 \frac{dx}{1+x^2} =$$

- ☐ π
- ☐ 0
- ☐ $\frac{\pi}{3}$
- ☐ 2π
- ☐ $\frac{\pi}{4}$
- ☐ $\frac{\pi}{2}$

Question 2

$$\int_{x=0}^3 5x\sqrt{x+1} \, dx =$$

- ☐ 30
- ☐ $12\sqrt{3}$
- ☐ $\frac{116}{3}$
- ☐ $-\frac{116}{3}$
- ☐ 0
- ☐ $-12\sqrt{3}$

Question 3

$$\int_{x=-\pi}^{\pi} \frac{d}{dx} (x \cos x) dx =$$

- ☐ $\cos x - x \sin x + C$
- ☐ 2π
- ☐ $x \cos x + C$
- ☐ 0
- ☐ -2π
- ☐ $x \cos x$

Question 4

$$\frac{d}{dx} \int_{x=-\pi}^{\pi} x \cos x dx =$$

- ☐ $x \cos x + C$
- ☐ -2π
- ☐ $\cos x - x \sin x + C$
- ☐ 0
- ☐ $x \cos x$
- ☐ 2π

Question 5

$$\frac{d}{dx} \int_{t=0}^x \cos t dt =$$

- ☐ $\cos x$
- ☐ $\sin x - 1$

- ☐ $1 - \cos x$
- ☐ $1 - \sin x$
- ☐ $\cos x - 1$
- ☐ $\sin x$

Question 6

$$\frac{d}{dx} \int_{t=\sin x}^{\tan x} e^{-t^2} dt =$$

- ☐ 0
- ☐ $2(\tan x \sec^2 x - \sin x \cos x)e^{-t^2}$
- ☐ $\int_{2 \sin x \cos x}^{2 \tan x \sec^2 x} e^{-t^2} dt$
- ☐ $2e^{-\tan^2 x} \tan x \sec^2 x - 2e^{-\sin^2 x} \sin x \cos x$
- ☐ $e^{-4 \tan^2 x \sec^4 x} - e^{-4 \sin^2 x \cos^2 x}$
- ☐ $e^{-\tan^2 x} \sec^2 x - e^{-\sin^2 x} \cos x$

☐ In accordance with the Honor Code, I certify that my answers here are my own work.

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