

Calculus Quiz

Your Name:

$$\sin^2 x + \cos^2 x = 1 \quad \sin^2 x = \frac{1}{2}(1 - \cos 2x) \quad \cos^2 x = \frac{1}{2}(1 + \cos 2x)$$

Show all work.

1. Write as a sum of partial fractions.

$$\frac{12x + 41}{2x^2 - x - 15}$$

2.
$$\int \frac{5k}{(k-4)^3} dk$$

3.
$$\int_{-\pi/3}^0 \sin^3 x \cos^7 x dx$$

4.
$$\int \frac{x^2}{\sqrt{x^2 - 16}} dx$$

substitute using $x = 4 \sec \theta$