

11C Using Trigonometric Identities

1. Find the following integral:

$$\int (\tan^2 x) dx$$

2. Find:

$$\int (\sin 3x \cos 3x) dx$$

3. Find:

$$\int (\sec x + \tan x)^2 dx$$

4. Show that:

$$\int_{\frac{\pi}{12}}^{\frac{\pi}{8}} (\sin^2 x) dx = \frac{\pi}{48} + \frac{1 - \sqrt{2}}{8}$$