

## CHAPTER 7.5: Integral Review

1. ‘Easier’ type:

$$\begin{aligned} & \int \tan^3(x) \sec(x) \, dx \\ & \int x^2 \ln(x) \, dx \\ & \int x \sqrt{5 - x^2} \, dx \end{aligned}$$

2. ‘Medium’ difficulty:

$$\begin{aligned} & \int \frac{\sqrt{x^2 - 1}}{x^2} \, dx \\ & \int \frac{x^2 + 1}{x^2 - 2x - 3} \, dx \end{aligned}$$

3. ‘Harder’ difficulty:

$$\begin{aligned} & \int y^2 (\ln(y))^2 \, dy \\ & \int \frac{x + 1}{5 + 4x - x^2} \, dx \\ & \int \frac{\cos(x)}{4 - \sin^2(x)} \, dx \\ & \int \frac{x^2}{\sqrt{x + 2}} \, dx \\ & \int \frac{\tan^{-1}(\sqrt{t})}{\sqrt{t}} \, dt \\ & \int \frac{\ln(\tan(\theta))}{\sin(\theta) \cos(\theta)} \, d\theta \end{aligned}$$