Find the following antiderivatives and definite integrals and circle your answers:

$$1. \int x^3 \sqrt{5 + x^4} \, dx$$

2. 
$$\int \frac{e^{2t} dt}{e^{2t} + 7}$$

$$3. \int \frac{dv}{\sqrt{1+16v^2}}$$

$$4. \int_0^{\pi/2} \frac{\sin(\theta) d\theta}{1 + \cos^2(\theta)} dt$$

5. 
$$\int_0^1 \alpha^2 \sin(\pi \alpha^3) \, d\alpha$$