

Evaluate the following integrals.

1. $\int_1^5 x \sqrt{28 - x^2} dx$

2. $\int \cos(x) \sin(x) e^{\sin(x)} dx$

(Hint: Be clever with parts or substitute $u = \sin(x)$)

3. $\int \frac{e^x}{1 + e^x} dx$

4. $\int \frac{e^x}{1 + e^{2x}} dx$

5. $\int \tan(x) dx$

(Hint: $\tan(x) = \frac{\sin(x)}{\cos(x)}$)

6. $\int \sin(x)^2 dx$

(Hint: Think parts)

7. $\int e^x \cos(x) dx$