Evaluate the following integrals.

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

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

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

4. $\displaystyle\int \tan(x)\ dx$

5. $\displaystyle\int_1^4 \frac{\sqrt{x}}{1 + \sqrt{x}}\ dx$

6. $\displaystyle\int \frac{\sec(x)^2}{\sqrt{1 - \tan(x)^2}}\ dx$

7. $\displaystyle\int \sin(x)^2\ dx$

8. $\displaystyle\int_0^\pi e^x \sin(x)\ dx$