Evaluate the following integrals

1. $\displaystyle\int_0^\pi x \sin(x^2)\, dx$

2. $\displaystyle\int x^3 \sin(x^2)\, dx$

3. $\displaystyle\int \arctan(x)\, dx$ (Hint: Think parts)

4. $\displaystyle\int_1^5 x\sqrt{18 - x}\, dx$

5. $\displaystyle\int \cos(x)\sin(x)e^{\sin(x)}\, dx$
   (Hint: Do a u substitution with $u = \sin(x)$)

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

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

8. $\displaystyle\int e^x \cos(x)\, dx$