1) $\int\limits_{-3}^{3} x^7 dx$

2) $\int\limits_{-2}^{2} \left(x^6 - 1\right) dx$

3) $\int\limits_{-\pi/4}^{\pi/4} \sin^3 x \, dx$

4) $\int\limits_{0}^{\pi} \cos x \, dx$

Find the average value of the function on the stated interval

5) $f(x) = x^2$ on $[-1,1]$

6) $f(x) = \sqrt{1+x}$ on $[-1,1]$

7) $f(x) = e^x$ on $[-1,1]$

8) $f(x) = |\sin x|$ on $[0, 2\pi]$