

1. π

2. A

3. $\frac{1}{2}$

4. $f(x)=2\sin\left(2x+\frac{\pi}{3}\right),x_0=\frac{23\pi}{24};f(x)_{min}=f\left(-\frac{\pi}{4}\right)=-1, \quad f(x)_{max}=f\left(\frac{\pi}{12}\right)=2.$