次の計算をせよ。

(1) $\left(\cos\dfrac{\pi}{6} + i\sin\dfrac{\pi}{6}\right)^7$

(2) $\left\{\sqrt{2}\left(\cos\dfrac{\pi}{18} + i\sin\dfrac{\pi}{18}\right)\right\}^{12}$

(1) 与式 $= \left(\cos\dfrac{7}{6}\pi + i\sin\dfrac{7}{6}\pi\right)$

$= -\dfrac{\sqrt{3}}{2} - \dfrac{1}{2}i$

(2) 与式 $= \sqrt{2}^{12}\left(\cos\dfrac{12}{18}\pi + i\sin\dfrac{12}{18}\pi\right)$

$= 2^6\left(\cos\dfrac{2}{3}\pi + i\sin\dfrac{2}{3}\pi\right)$

$= 64\left(-\dfrac{1}{2} + \dfrac{\sqrt{3}}{2}i\right)$

$= -32 + 32\sqrt{3}\,i$