11 $\sin\theta+\cos\theta=\dfrac{2}{3}$ のとき，以下の式の値を求めよ．

(1) $\sin\theta\cos\theta$

(2) $\sin^3\theta+\cos^3\theta$

$\sin\theta+\cos\theta=\frac{2}{3}$

$(\sin\theta+\cos\theta)^2=\frac{4}{9}$

$\sin^2\theta+2\sin\theta\cos\theta+\cos^2\theta=\frac{4}{9}$

$\sin^2\theta+\cos^2\theta=1$ ｱﾅﾊｾﾞ．

$2\sin\theta\cos\theta+1=\frac{4}{9}$

$2\sin\theta\cos\theta=-\frac{5}{9}$

$\therefore\ \sin\theta\cos\theta=-\frac{5}{18}$

(2) $\sin^3\theta+\cos^3\theta$

$=(\sin\theta+\cos\theta)(\sin^2\theta-\sin\theta\cos\theta+\cos^2\theta)$

$=\frac{2}{3}\times\left(1-\left(-\frac{5}{18}\right)\right)$

$=\frac{2}{3}\times\frac{23}{18}=\frac{23}{27}$

(1)で，「積の形を作るために2乗する!!」アイデア．