1 θ は第3象限の角だから，$\sin\theta < 0$，$\tan\theta > 0$

$\cos\theta = -\dfrac{2}{5}$ より，

$\sin\theta = -\sqrt{1-\cos^2\theta} = -\sqrt{1-\left(-\dfrac{2}{5}\right)^2} = -\sqrt{\dfrac{21}{25}} = -\dfrac{\sqrt{21}}{5}$

$\tan\theta = \dfrac{\sin\theta}{\cos\theta} = -\dfrac{\sqrt{21}}{5} \div \left(-\dfrac{2}{5}\right) = \dfrac{\sqrt{21}}{2}$

2 $\sin\dfrac{8}{5}\pi = \sin\left(\pi + \dfrac{3}{5}\pi\right) = -\sin\dfrac{3}{5}\pi$

さらに，$\sin\dfrac{3}{5}\pi = \sin\left(\dfrac{\pi}{2} + \dfrac{\pi}{10}\right) = \cos\dfrac{\pi}{10}$

よって，$\sin\dfrac{8}{5}\pi = -\cos\dfrac{\pi}{10}$