F. Given θ in the range $0 \leqslant \theta < \pi$, the equation

$$x^2 + y^2 + 4x\cos\theta + 8y\sin\theta + 10 = 0$$

represents a circle for

(a) $0 < \theta < \dfrac{\pi}{3}$, (b) $\dfrac{\pi}{4} < \theta < \dfrac{3\pi}{4}$, (c) $0 < \theta < \dfrac{\pi}{2}$, (d) all values of θ.