

$$\text{A) } \sqrt{2} \cos \theta - 1 = 0$$

$$+1 \quad +1$$

$$\frac{\sqrt{2} \cos \theta}{\sqrt{2}} = \frac{1}{\sqrt{2}}$$

$$\cos \theta = \frac{1}{\sqrt{2}}$$

$$\cos \theta = \frac{\sqrt{2}}{2}$$

$$\theta = 45^\circ, 315^\circ$$

$$\text{B) } \sqrt{3} \csc \theta - 2 = 0$$

$$+2 \quad +2$$

$$\sqrt{3} \csc \theta = 2$$

$$\csc \theta = \frac{2}{\sqrt{3}}$$

$$\sin \theta = \frac{\sqrt{3}}{2}$$

$$60^\circ, 120^\circ$$

$$4 \sin^2 \theta - 1 = 0$$

$$(2 \sin \theta - 1)(2 \sin \theta + 1) = 0$$

$$2 \sin \theta - 1 = 0 \quad 2 \sin \theta + 1 = 0$$

$$\sin \theta = \frac{1}{2} \quad \sin \theta = -\frac{1}{2}$$

$$\text{C) } 4 \sin^2 \theta - 1 = 0$$

$$4 \sin^2 \theta = 1$$

$$\sin^2 \theta = \sqrt{\frac{1}{4}}$$

$$\sin \theta = \pm \frac{1}{2}$$

$$30^\circ, 150^\circ$$

$$210^\circ, 330^\circ$$

$$\text{E) } 3 \tan^2 \theta - 1 = 0$$

$$\text{D) } (3 \cot^2 \theta - 1)(\cot^2 \theta - 3) = 0$$

$$3 \cot^2 \theta - 1 = 0$$

$$3 \cot^2 \theta = 1$$

$$\cot^2 \theta = \frac{1}{3}$$

$$\cot \theta = \pm \frac{1}{\sqrt{3}}$$

$$60^\circ, 120^\circ, 240^\circ$$

$$300^\circ$$

$$\cot^2 \theta - 3 = 0$$

$$\cot^2 \theta = 3$$

$$\cot \theta = \pm \sqrt{3}$$

$$30^\circ, 150^\circ$$

$$210^\circ, 330^\circ$$

$$\text{F) } \cos^2 \theta = 3 \sin^2 \theta$$