Worked example

Solve in the interval $0 \leq \theta \leq 2\pi$:

$$cosec\ \theta = 1$$

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

Your turn

Solve in the interval $0 \leq \theta \leq 2\pi$:

$$\sec\theta = -1$$

$$\theta = \pi$$

Worked example

Solve in the interval $0 \leq \theta \leq 2\pi$:

$$cosec\ \theta = 2$$

$$\cot\theta = -3$$

Your turn

Solve in the interval $0 \leq \theta \leq 2\pi$:

$$\sec\theta = 4$$

$\theta = 1.32, 4.97$ (3 sf)

Worked example

Solve in the interval $0 \leq \theta \leq 2\pi$:

$$cosec\ \theta = 0$$

$$\cot\theta = 0$$

Your turn

Solve in the interval $0 \leq \theta \leq 2\pi$:

$$\sec\theta = 0$$

No solutions

Worked example

Solve in the interval $-180° \leq \theta \leq 180°$:

$$cosec\ \theta = -\sqrt{2}$$

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

Your turn

Solve in the interval $-180° \leq \theta \leq 180°$:

$$\sec\theta = -\sqrt{5}$$

$\theta = 116.6°, 243.4°$ (1 dp)

Worked example

Solve in the interval $0 \leq \theta \leq 360°$:

$$2\,cosec^2\theta - 5cosec\,\theta - 3 = 0$$

$$2\cot^2\theta + 7\cot\theta + 3 = 0$$

Your turn

Solve in the interval $0 \leq \theta \leq 360°$:

$$2\sec^2\theta + 5\sec\theta - 3 = 0$$

$\theta = 109.5°, 250.5°$ (1 dp)

Worked example

Solve in the interval $0° \leq \theta \leq 360°$:

$$\frac{1 - \tan x}{1 - \cot x} = 2$$

Your turn

Solve in the interval $0° \leq \theta \leq 360°$:

$$\frac{1 - \cot x}{1 - \tan x} = 3$$

$\theta = 153.4°, 333.4°$ (1 dp)