

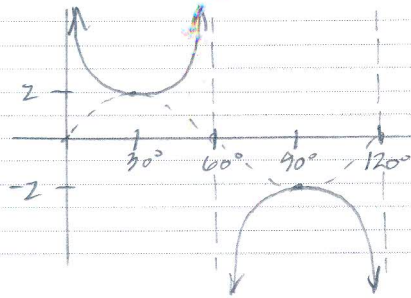
Trig Graphing WS
Cosecant Graphs

Name Fuston

Graph one complete period for each function and give the domain and range (in interval notation) of that period.

1) $y = 2 \csc 3\theta$

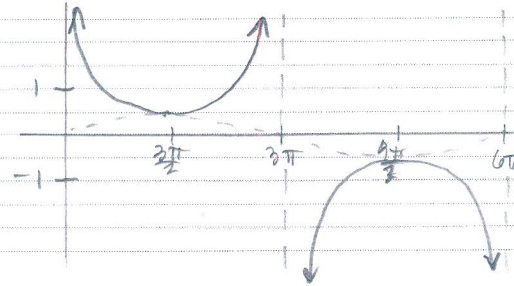
$3\theta = 0 \quad 3\theta = 360$
 $\theta = 0^\circ \quad \theta = 120^\circ$



$D: (0, 60^\circ) \cup (60^\circ, 120^\circ)$
 $R: (-\infty, -2] \cup [2, \infty)$
Period = 120°

2) $y = \frac{1}{2} \csc \frac{x}{3}$

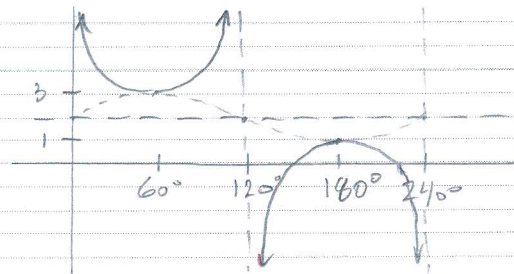
$\frac{x}{3} = 0 \quad \frac{x}{3} = 2\pi$
 $x = 0 \quad x = 6\pi$



$D: (0, 3\pi) \cup (3\pi, 6\pi)$
 $R: (-\infty, -\frac{1}{2}] \cup [\frac{1}{2}, \infty)$
Period = 6π

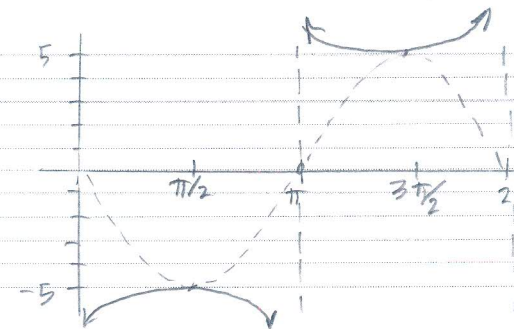
3) $y = \csc \frac{3\theta}{2} + 2$

$\frac{3\theta}{2} = 0 \quad \frac{3\theta}{2} = 360^\circ$
 $\theta = 0 \quad \theta = 240^\circ$



$D: (0, 120^\circ) \cup (120^\circ, 240^\circ)$
 $R: (-\infty, 1] \cup [3, \infty)$
Period = 240°

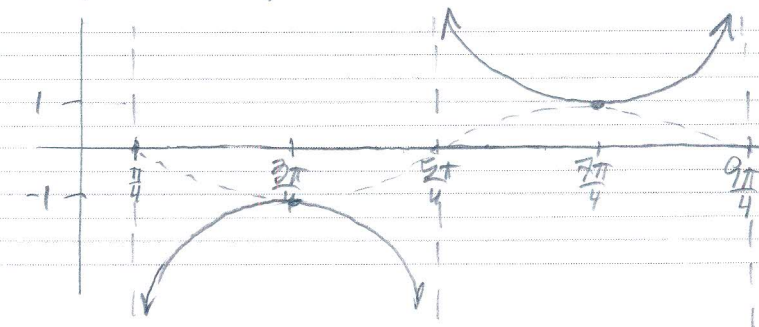
4) $y = -5 \csc x$



$D: (0, \pi) \cup (\pi, 2\pi)$
 $R: (-\infty, -5] \cup [5, \infty)$
Period = 2π

5) $y = -\csc\left(x - \frac{\pi}{4}\right)$

$x - \frac{\pi}{4} = 0 \quad x - \frac{\pi}{4} = 2\pi$
 $x = \frac{\pi}{4} \quad x = \frac{9\pi}{4}$



$D: (\frac{\pi}{4}, \frac{5\pi}{4}) \cup (\frac{9\pi}{4}, \frac{13\pi}{4})$
 $R: (-\infty, -1] \cup [1, \infty)$
Period = 2π