

Warm-up

March 16, 2017

Graph.

$$y = 5 \sec(3x + 45^\circ) - 2$$

$$a=5 \quad b=3 \quad c=-45^\circ \quad d=-2 \quad \text{PS} = \frac{-45^\circ}{3} = -15^\circ$$

$$\text{Amp} = \underline{5} \quad \text{Per} = \underline{120} \quad \text{VS} = -2$$

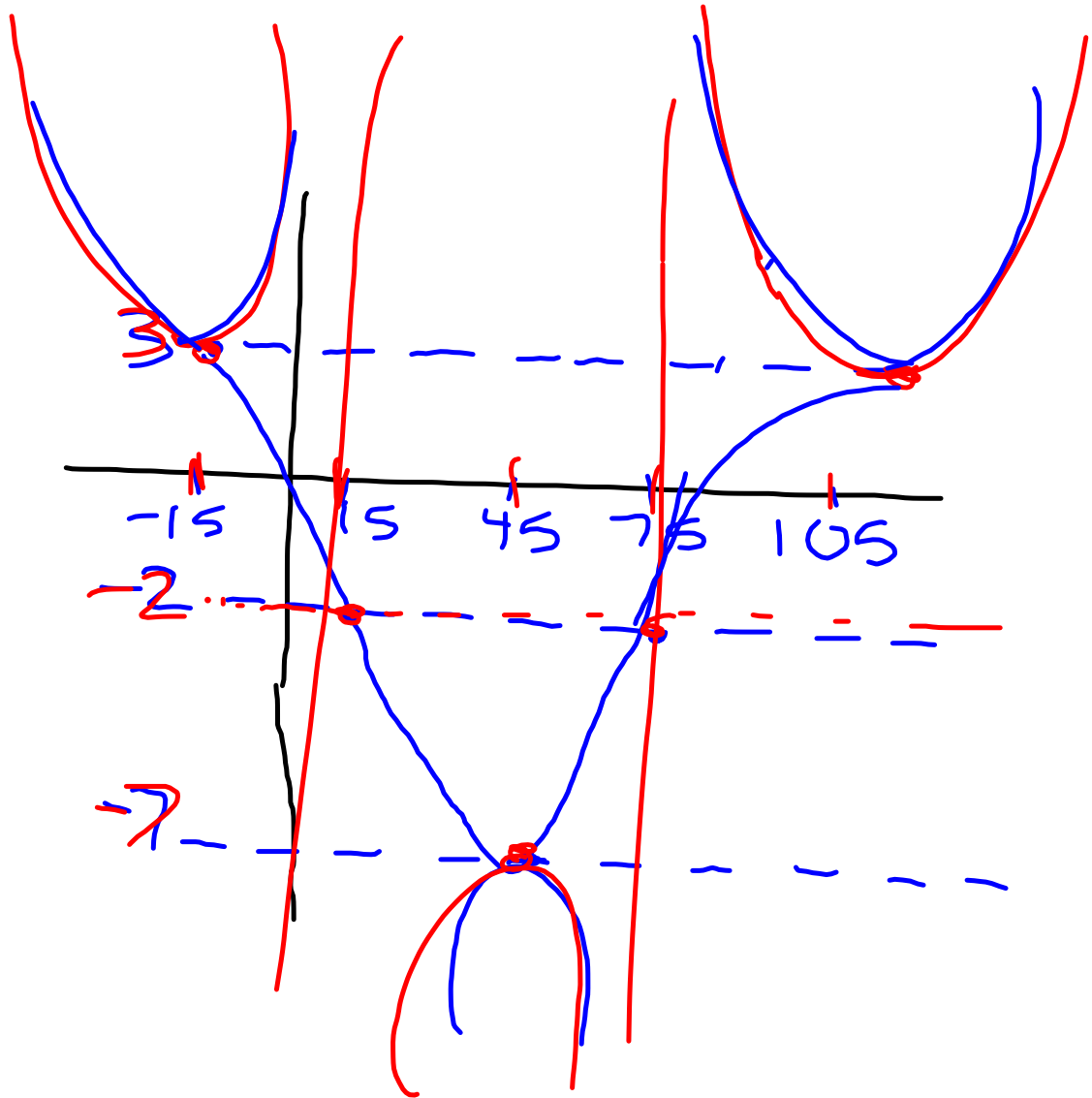
$$\text{Interval: } \frac{P}{4} = 30$$

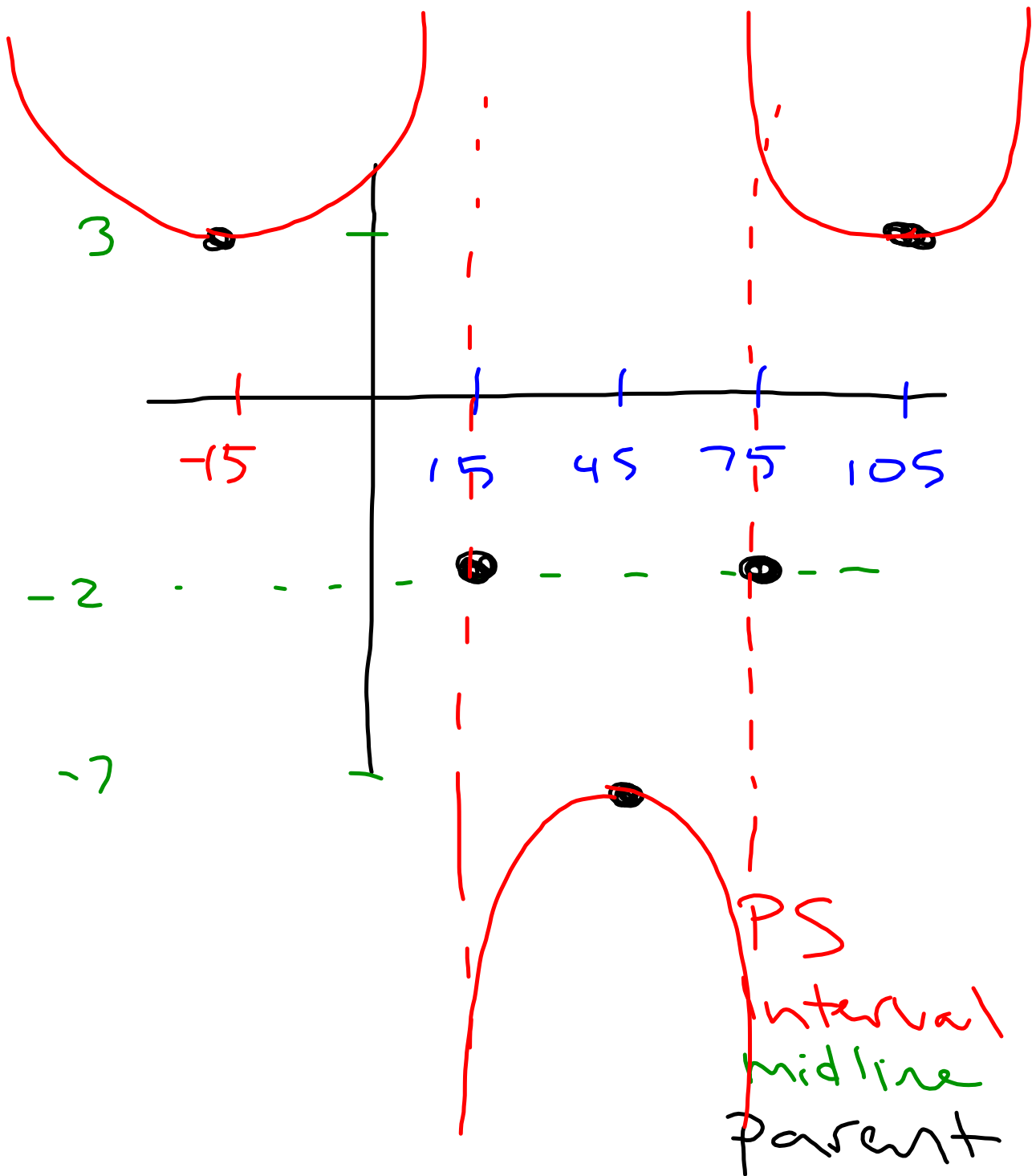
PS

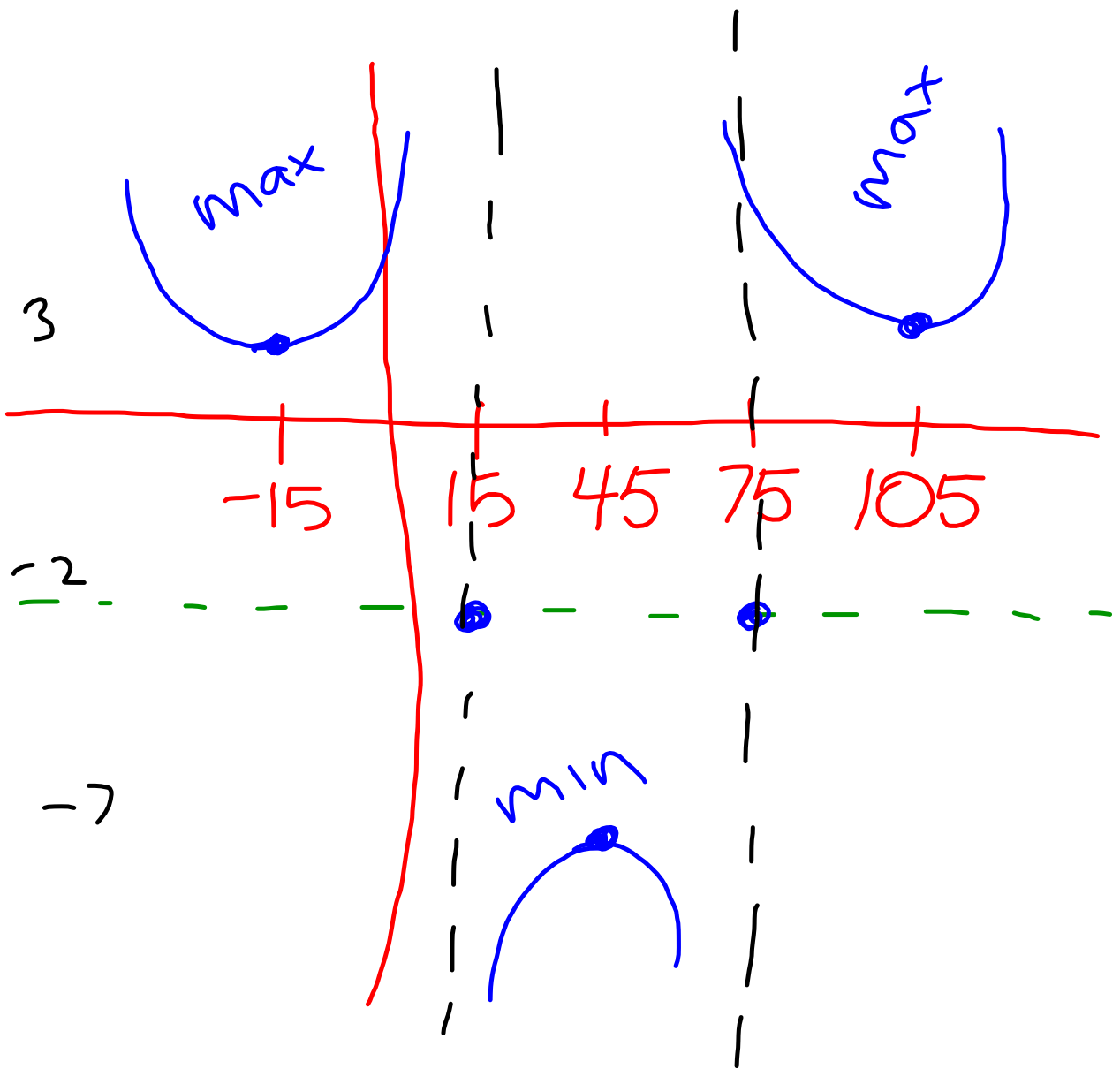
interval

midline

parent









Graph.

$$y = -3 \csc(2x + 180^\circ) - 4$$

$$a = -3 \quad b = 2 \quad c = -180 \quad d = -4$$

$$\therefore \text{amp} = 3 \quad \text{per} = \frac{360}{b} = \frac{360}{2} = 180$$

$$\text{int} = \frac{\text{per}}{4} = \frac{180}{4} = 45$$

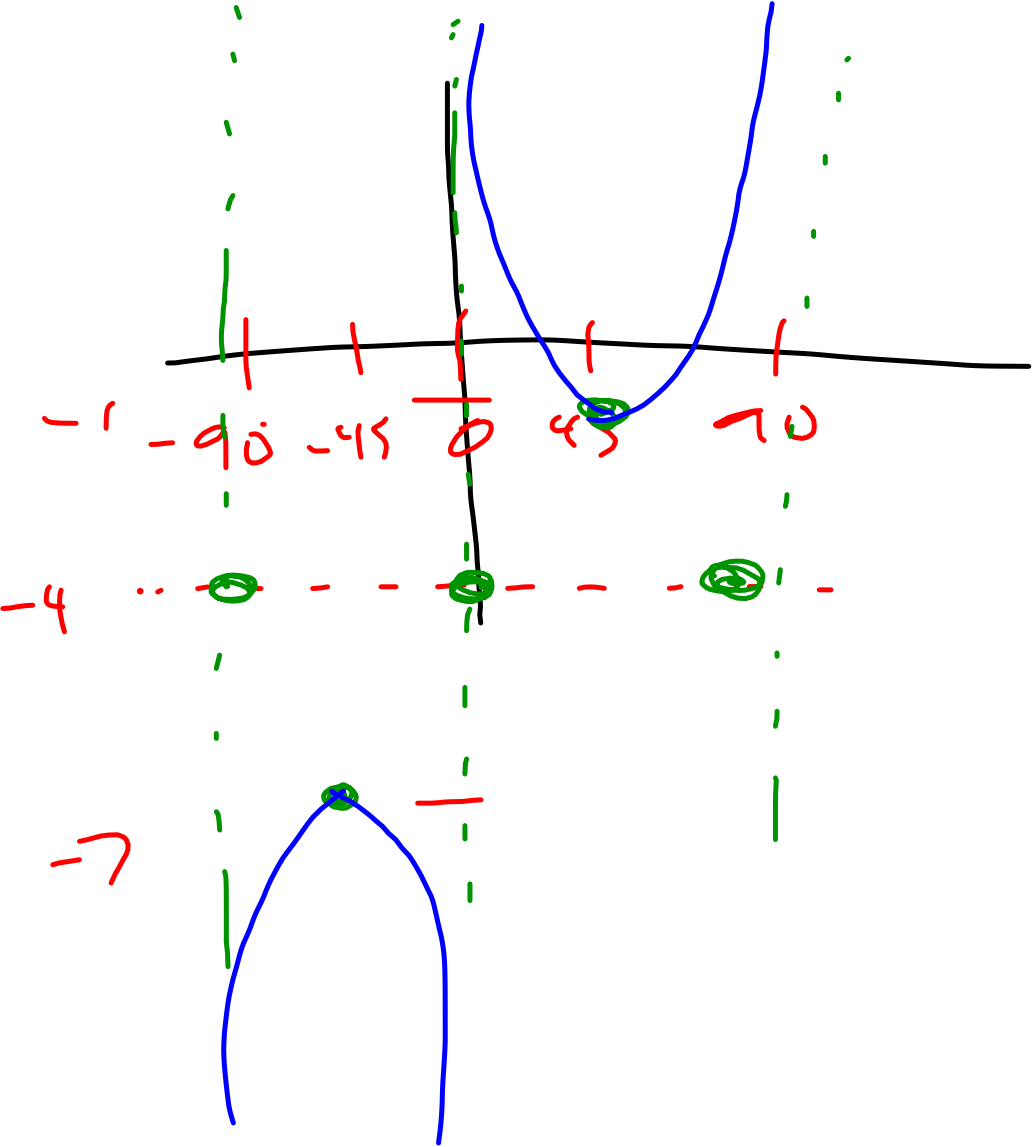
$$\text{PS} = \frac{c}{b} = \frac{-180}{2} = -90^\circ \quad \text{VS} = d = -4 \downarrow$$

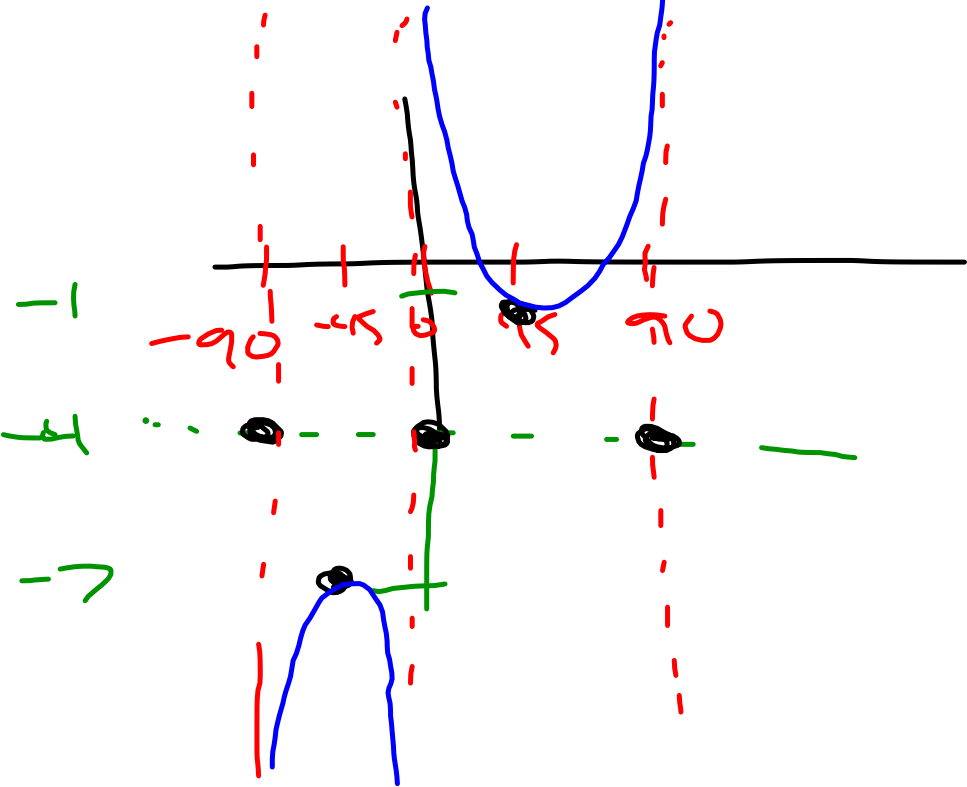
PS

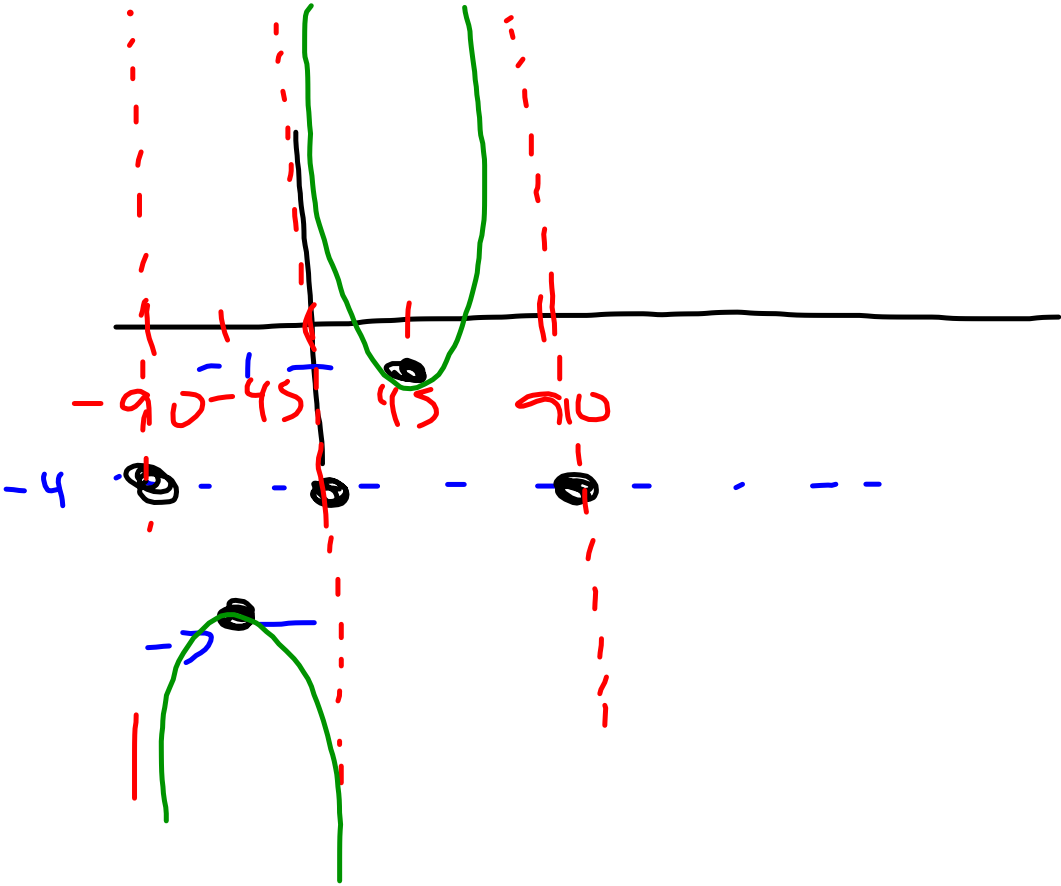
int

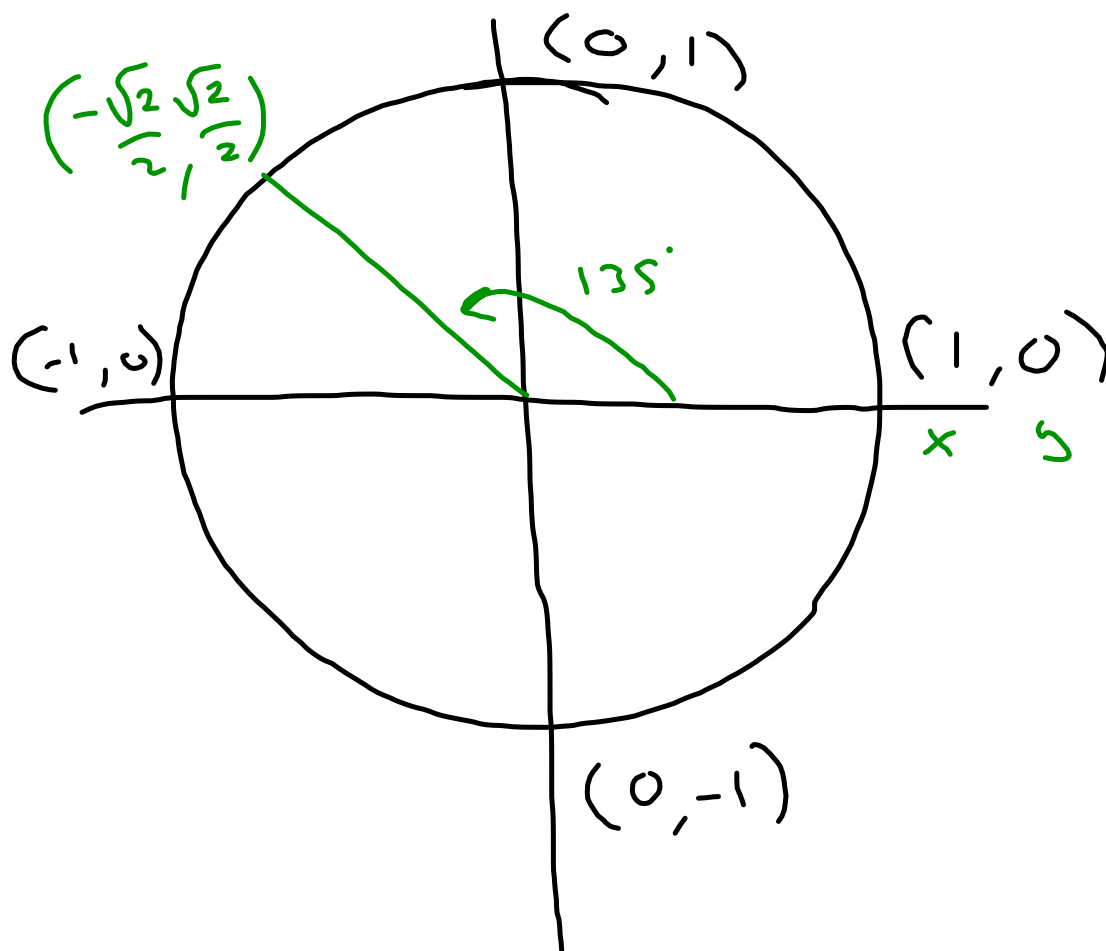
midline

parent









$$\tan \theta = \frac{y}{x}$$

$$\tan(0^\circ) = \frac{0}{1} = 0$$

$$\tan(90^\circ) = \frac{1}{0} = \text{und.}$$

$$\cot \theta = \frac{x}{y}$$

$$\cot(0^\circ) = \frac{1}{0} = \text{undef.}$$

$$\cot(135^\circ) = \frac{-\sqrt{2}}{\sqrt{2}} = -1$$

$$\tan \theta = \frac{y}{x}$$

$$\tan(0) = \frac{0}{1} = 0$$

$$\tan(90) = \frac{1}{0} = \text{undef.}$$

$$\cot \theta = \frac{x}{y}$$

$$\cot(0) = \frac{1}{0} = \text{undef.}$$

$$\cot(135) = \frac{-\sqrt{2}}{\sqrt{2}} = -1$$

$$\tan \theta = \frac{y}{x}$$

$$\tan(0) = \frac{0}{1} = 0$$

$$\tan(135) = \frac{-1}{-1} = 1$$

$$\cot \theta = \frac{x}{y}$$

$$\cot(0) = \frac{1}{0} = \text{undef}$$

$$\cot(90) = \frac{x}{y} = \frac{0}{1} = 0$$

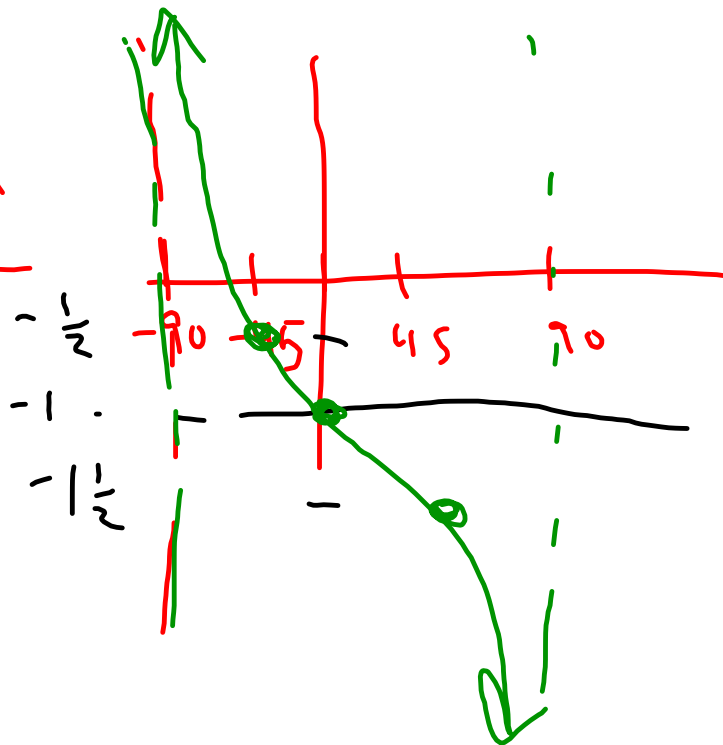
$$\cot(180) = \frac{x}{y} = \frac{-1}{0} = \text{und.}$$

~~tan~~
~~csc~~ ~~cot~~
~~sec~~

Graphing ~~Sine~~ and ~~Cosine~~

1. Find a, b, c, and d.
2. Find "amplitude" and period. = $\frac{180^\circ}{b}$ or $\frac{\pi}{b}$
3. Divide period by 4. (interval)
4. Find the PS (starting point) and VS (midline)
5. Graph

PS
interval
midline
parent



$$\textcircled{5} \quad y = \frac{1}{2} \cot(x + 90^\circ) - 1$$

$$a = \frac{1}{2} \quad b = 1 \quad c = -90^\circ \quad d = -1$$

$$\text{amp} = \frac{1}{2} \quad \text{per} = \frac{180}{b} = \frac{180}{1} = 180^\circ$$

$$\text{Int} = \frac{\text{per}}{4} = \frac{180}{4} = 45^\circ$$

$$\text{PS} = \frac{c}{b} = \frac{-90}{1} = -90^\circ \text{L}$$

$$\text{VS} = d = -1 \downarrow$$

$$\textcircled{5} \quad y = \frac{1}{2} \cot(x + 90^\circ) - 1$$


$$a = \frac{1}{2} \quad b = 1 \quad c = -90 \quad d = -1$$

$$\text{amp} = \frac{1}{2} \quad \text{per} = \frac{180}{b} = \frac{180}{1} = 180$$

$$\text{Int} = \frac{\text{per}}{4} = \frac{180}{4} = 45$$

$$\text{PS} = \frac{c}{b} = \frac{-90}{1} = -90^\circ$$

$$\text{VS} = d = -1 \quad \downarrow \text{midline}$$

$$\textcircled{7} \quad y = \overset{d}{-2} + \overset{a}{2} \cot(\overset{b}{1} \overset{-c}{x+150})$$


$$\textcircled{5} \quad y = \frac{1}{2} \cot(x + 90^\circ) - 1$$

$$a = \frac{1}{2} \quad b = 1 \quad c = -90 \quad d = -1$$

$$\text{"amp"} = \frac{1}{2} \quad \text{per} = \frac{180}{1} = 180$$

$$\text{Int} = \frac{\text{per}}{4} = \frac{180}{4} = 45$$

$$\text{PS} = \frac{c}{b} = \frac{-90}{1} = -90^\circ$$

$$\text{VS} = d = -1$$

