Algebra II
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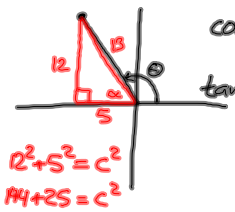
	sin θ	cos θ	tan θ	csc θ	sec θ	cot θ
2)	$\frac{12}{13}$	$-\frac{5}{13}$	$-\frac{12}{5}$	$\frac{13}{12}$	$-\frac{13}{5}$	$-\frac{5}{12}$
3)	$\frac{24}{25}$	$-\frac{7}{25}$	$-\frac{24}{7}$	$\frac{25}{24}$	$-\frac{25}{7}$	$-\frac{7}{24}$
4)	$-\frac{15}{17}$	$-\frac{8}{17}$	$\frac{15}{8}$	$-\frac{17}{15}$	$-\frac{17}{8}$	$\frac{8}{15}$
6)	1	0	∅	1	∅	0
8)	-1	0	∅	-1	∅	0
38)	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\sqrt{3}$	$-\frac{2}{\sqrt{3}}$	-2	$\frac{1}{\sqrt{3}}$
40)	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\sqrt{3}$	$-\frac{2}{\sqrt{3}}$	2	$-\frac{1}{\sqrt{3}}$
42)	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\sqrt{3}$	$-\frac{2}{\sqrt{3}}$	2	$-\frac{1}{\sqrt{3}}$
44)	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\sqrt{3}$	$\frac{2}{\sqrt{3}}$	-2	$-\frac{1}{\sqrt{3}}$
46)	$-\frac{4}{5}$	$-\frac{3}{5}$	$\frac{4}{3}$	$-\frac{5}{4}$	$-\frac{5}{3}$	$\frac{3}{4}$
48)	$\frac{4}{5}$	$-\frac{3}{5}$	$-\frac{4}{3}$	$\frac{5}{4}$	$-\frac{5}{3}$	$-\frac{3}{4}$
50)	$-\frac{2}{5}$	$\frac{\sqrt{21}}{5}$	$-\frac{2}{\sqrt{21}}$	$-\frac{5}{2}$	$\frac{5}{\sqrt{21}}$	$-\frac{\sqrt{21}}{2}$
52)	$-\frac{12}{13}$	$\frac{5}{13}$	$-\frac{12}{5}$	$-\frac{13}{12}$	$\frac{13}{5}$	$-\frac{5}{12}$

10)	54°
12)	68°
14)	61°
16)	71°
18)	45.3°
20)	15.8°
22)	33° 40′
24)	47° 10′
60)	30°, 150°
62)	300°, 240°
64)	40°, 140°
66)	100°, 260°

2) $P(-5, 12)$



$\sin\theta = \frac{12}{13}$

$\cos\theta = -\frac{5}{13}$

$\tan\theta = -\frac{12}{5}$

$12^2 + 5^2 = c^2$

$144 + 25 = c^2$

$169 = c^2$

$13 = c$

SOH CAH TOA

All Sin Tan Cos

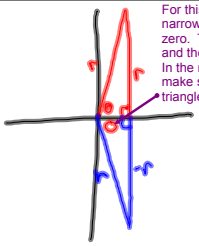
I II III IV

6) 90°

$\sin 90° = \frac{r}{r} = 1$

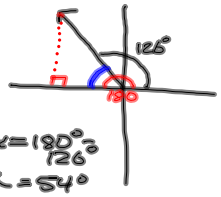
$\cos 90° = \frac{0}{r} = 0$

$\tan 90° = \frac{r}{0} = \varnothing$



For this one, we imagine a real narrow triangle, in fact, width of zero. This makes the height and the hypotenuse the same. In the real world, this does not make sense, but viewing it as a triangle gives us the trig values.

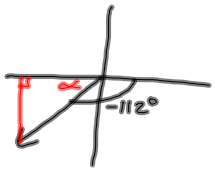
10) $\theta = 126°$



$\alpha = 180° - 126°$

$\alpha = 54°$

12) $\theta = -112°$



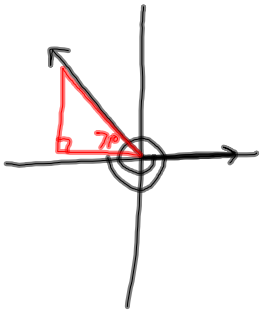
$\alpha = 180° - 112°$

$\alpha = 68°$

16) $\theta = -611$

$\alpha = 71°$

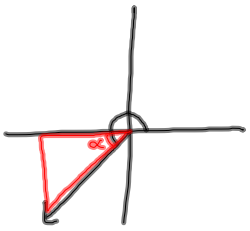
$611 - 540 = 71$



22) $213°40'$

-180

$\alpha = 33°40'$



38) 240°

$\sin 240° = -\frac{\sqrt{3}}{2}$

$\cos 240° = -\frac{1}{2}$

$\tan 240° = \frac{\sqrt{3}}{1}$

$\csc 240° = -\frac{2}{\sqrt{3}}$

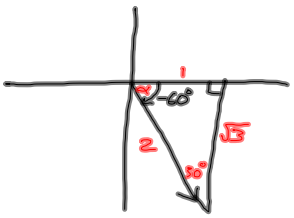
$\sec 240° = -2$

$\cot 240° = \frac{1}{\sqrt{3}}$

40) $\sin -60° = -\frac{\sqrt{3}}{2}$

$\cos -60° = \frac{1}{2}$

$\tan -60° = -\frac{\sqrt{3}}{2}$



48) $\cos\theta = -\frac{3}{5}$ (II or III) $\quad \sin\theta > 0$ (I or II)

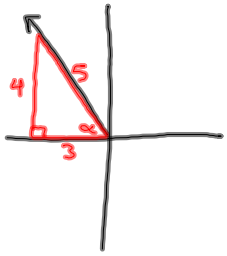
$\sin\theta = \frac{4}{5}$

$\tan\theta = -\frac{4}{3}$

$\cot\theta = -\frac{3}{4}$

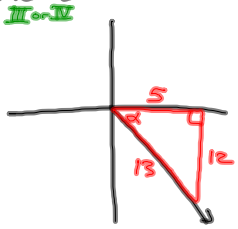
$\sec\theta = -\frac{5}{3}$

$\csc\theta = \frac{5}{4}$



52) $\sec\theta = \frac{13}{5}$ $\quad \sin\theta < 0$ (III or IV)

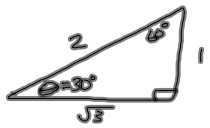
$\cos\theta = \frac{5}{13}$ pos, I or IV



60) $\sin\theta = \frac{1}{2}$ ← opp, hyp

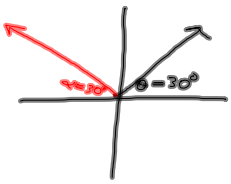
sin is positive in Quads I and II

$\theta = 30°$

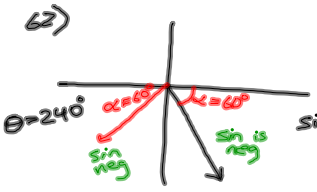


$\alpha = 30°$

$\theta = 150°$



62)



$\sin\theta = \sin 300° = -\frac{\sqrt{3}}{2}$ (obvious)

$\theta = 300°$

and

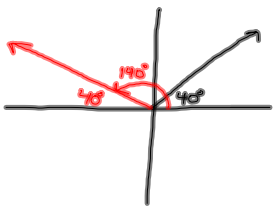
$\theta = 240°$

64) $\sin\theta = \sin 40°$ → Quad I, and positive answer. Also pos. in Quad II

$\theta = 40°$

or

$\theta = 140°$



66) $\cos\theta = \cos 100°$

$\theta = 100°$

$\alpha = 80°$

in Quad II cos is neg

also in III

In Quad III

$\alpha = 80° \Rightarrow \theta = 260°$