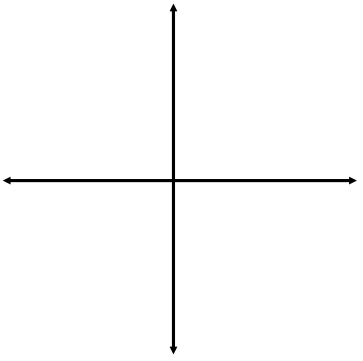
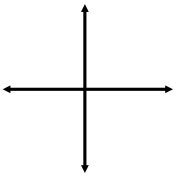
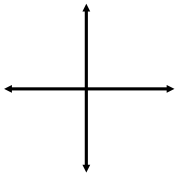
2.2 Trig Ratios of any Angle

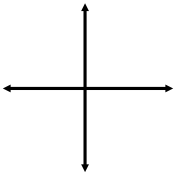
With much exploration, we notice that the sign for the three trig ratios follow a very predictable pattern. The mnemonic _____ _____ _____ _____ can be useful to remember where these signs are positive or negative.

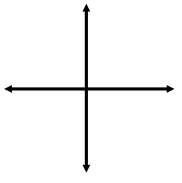


Once we know the sign of the trig ratio, all we have to do is use the _____ _____ to determine the numerical value of the ratio.

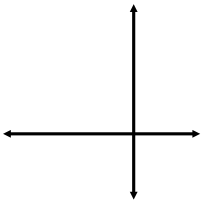




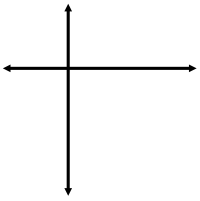


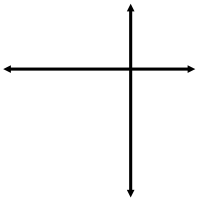


Ex. The point P(-8, 15) lies on the terminal arm of an angle. Determine the exact value of all three trig ratios.

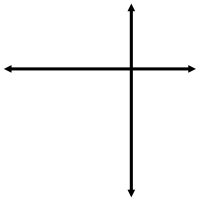


Ex. Determine the exact value of cos 315º and then sin 240º.



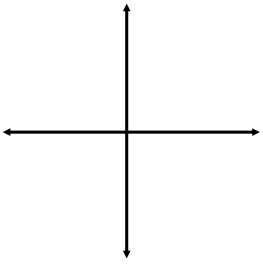


Ex. Suppose θ is an angle in standard position with terminal angle in quadrant 3 and cos θ = -2/7. What are the exact values of sin θ and tan θ?



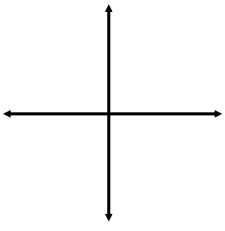
Quadrantal angles are angles whose terminal arm lie on ____
They are therefore 0º, 90º, 180º, 270º, 360º, ...

	0	90	180	270
sin				
cos				
tan				

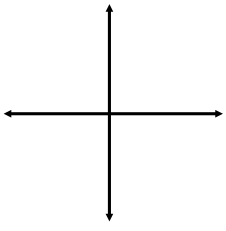


Ex. Solve for θ if 0 < θ <360

a) sin θ = - 0.5



b) cos θ = $1/\sqrt{2}$



Ex. Solve for θ if 0<θ<360

a) tan θ = - 1.25

b) sin θ = - 0.31

Homefun: Pg. 96 #1-9, 12, 15, 16,18, 19, 22, 25, 29