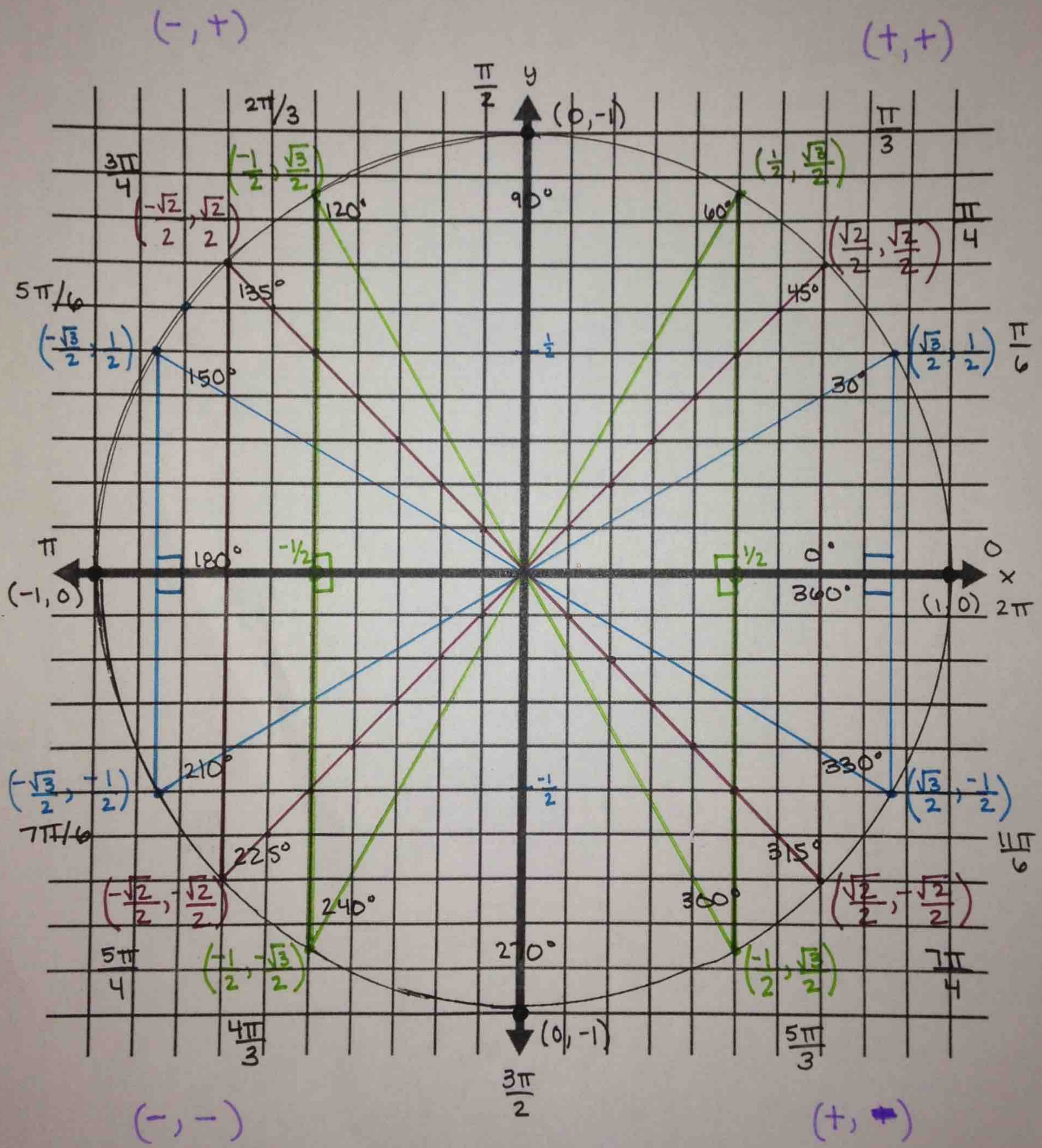
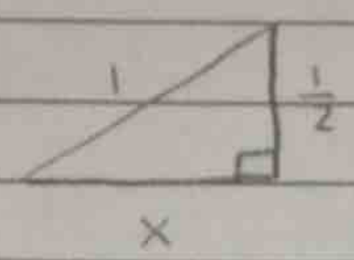
7.4 A Trip Around the Unit Circle

SWBAT explore patterns while constructing the Unit Circle.



Blue:



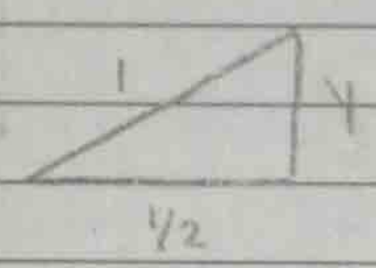
$$x^2 + \left(\frac{1}{2}\right)^2 = 1^2$$

$$x^2 + \left(\frac{1}{4}\right) = 1$$

$$x^2 = \frac{3}{4}$$

$$x = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2}$$

Green:



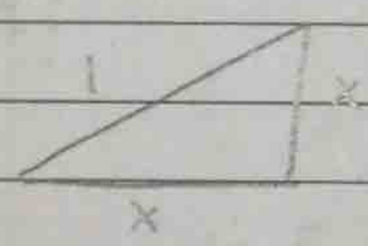
$$\left(\frac{1}{2}\right)^2 + y^2 = 1^2$$

$$y^2 + \frac{1}{4} = 1$$

$$y^2 = \frac{3}{4}$$

$$y = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2}$$

red:



$$x^2 + x^2 = 1^2$$

$$2x^2 = 1$$

$$x^2 = \frac{1}{2}$$

$$x = \sqrt{\frac{1}{2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

rationalize denominator