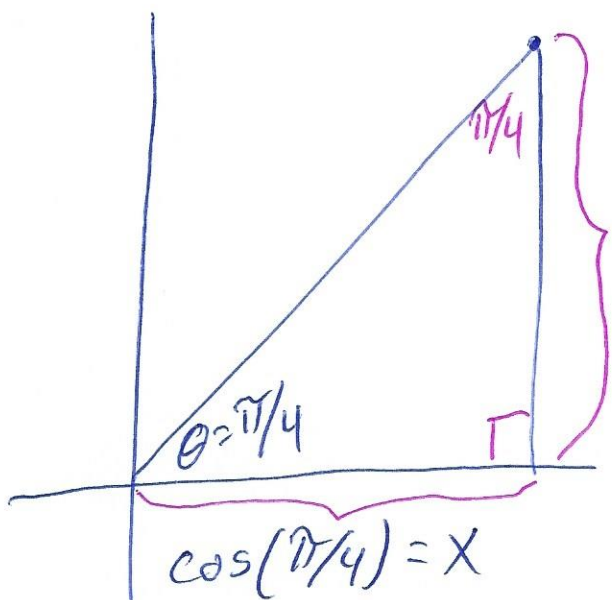


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♡ Happy Valentines! ♡

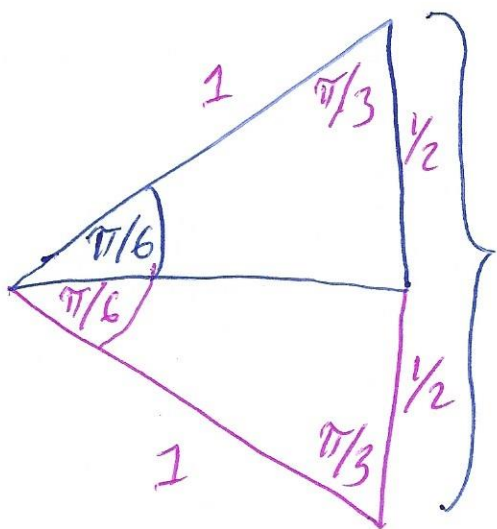


$$x^2 + y^2 = 1^2$$

$$2y^2 = 1, \text{ for } x=y$$

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

$$y = \sqrt{\frac{1}{2}}, \text{ since } y > 0,$$



This is an equilateral triangle.

$$x^2 + (1/2)^2 = 1^2$$

$$x^2 + 1/4 = 1$$

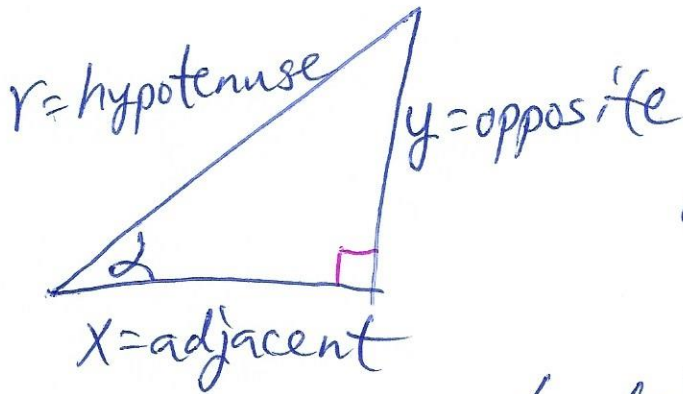
$$x^2 = 3/4, \text{ so } \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2} = x,$$

since $x > 0$.

$$\sec(\alpha) = \frac{1}{x} = \frac{1}{\cos(\alpha)}, \quad \csc(\alpha) = \frac{1}{y} = \frac{1}{\sin(\alpha)}$$

$$\cot(\alpha) = \frac{x}{y} = \frac{1}{\tan(\alpha)} = \frac{\cos(\alpha)}{\sin(\alpha)}$$

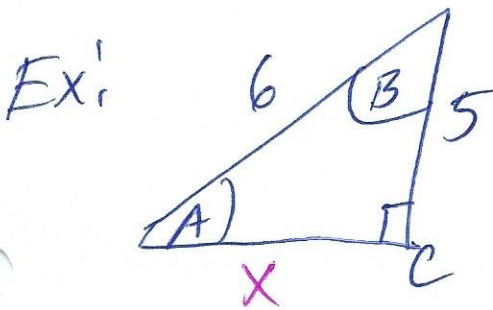
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$$\sin(\alpha) = \frac{\text{opp}}{\text{hyp}} = \frac{y}{r}$$

$$\cos(\alpha) = \frac{\text{adj}}{\text{hyp}} = \frac{x}{r}$$

$$\tan(\alpha) = \frac{\text{opp}}{\text{adj}} = \frac{y}{x}$$



~~x~~ $x^2 = 6^2 - 5^2$
 $= 36 - 25 = 11$

So $x = \sqrt{11}$

$$\sin(A) = \frac{5}{6}, \cos(A) = \frac{\sqrt{11}}{6}, \tan(A) = \frac{5}{\sqrt{11}}$$

$$\sec(A) = \frac{6}{\sqrt{11}}, \csc(A) = \frac{6}{5}, \cot(A) = \frac{\sqrt{11}}{5}$$

$$\sin(B) = \frac{\sqrt{11}}{6}, \cos(B) = \frac{5}{6}, \tan(B) = \frac{\sqrt{11}}{5}$$

$$\sec(B) = \frac{6}{5}, \csc(B) = \frac{6}{\sqrt{11}}, \cot(B) = \frac{5}{\sqrt{11}}$$

$$\sin(C) = 1, \cos(C) = 0, \tan(C) = \text{undefined}$$

$$\sec(C) = \text{undefined}, \csc(C) = 1, \cot(C) = 0$$

