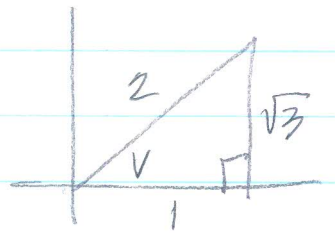


Pythagorean Puzzle

Activity 38

Given: $-90^\circ < v < 90^\circ \rightarrow$ QIV or QI
 $\sin v = \frac{\sqrt{3}}{2} \rightarrow$ QI or QII



- 1) $\cos v = \frac{1}{2}$
- 2) $\tan v = \sqrt{3}$
- 3) $\csc v = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$
- 4) $\sec v = 2$
- 5) $\cot v = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

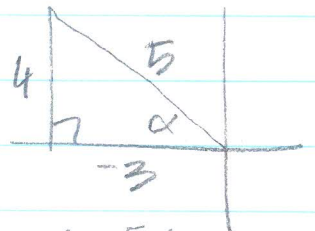
$$a^2 + \sqrt{3}^2 = 2^2$$

$$a^2 + 3 = 4$$

$$a^2 = 1$$

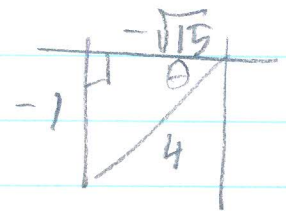
$$a = \sqrt{1} = 1$$

Given: $0^\circ < \alpha < 180^\circ \rightarrow$ QI or QII
 $\cos \alpha = -\frac{3}{5} \rightarrow$ QII or QIII



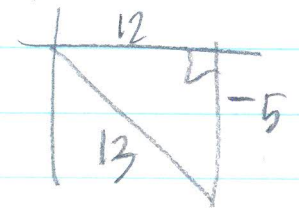
- 6) $\sin \alpha = \frac{4}{5}$
- 7) $\tan \alpha = -\frac{4}{3}$
- 8) $\csc \alpha = \frac{5}{4}$
- 9) $\sec \alpha = -\frac{5}{3}$
- 10) $\cot \alpha = -\frac{3}{4}$

Given: $90^\circ < \theta < 270^\circ \rightarrow$ QII or QIII
 $\csc \theta = -4 \rightarrow$ QIII or QIV



- 11) $\sin \theta = -\frac{1}{4}$
- 12) $\cos \theta = \frac{-\sqrt{15}}{4}$
- 13) $\tan \theta = \frac{1}{\sqrt{15}} = \frac{\sqrt{15}}{15}$
- 14) $\sec \theta = \frac{-4}{\sqrt{15}} = \frac{-4\sqrt{15}}{15}$
- 15) $\cot \theta = \sqrt{15}$

Given: $180^\circ < \beta < 360^\circ \rightarrow$ QIII or QIV
 $\tan \beta = -\frac{5}{12} \rightarrow$ QII or QIV



- 16) $\sin \beta = -\frac{5}{13}$
- 17) $\cos \beta = -\frac{5}{12}$
- 18) $\csc \beta = -\frac{13}{5}$
- 19) $\sec \beta = -\frac{12}{5}$
- 20) $\cot \beta = -\frac{12}{5}$