

Key

# WHY DID PYTHAGORAS PLANT A FLOWER IN A CYLINDRICAL POT AND PLACE IT ON THE TOP SHELF, BUT PUT EMPTY CUBICAL POTS ON A LOWER SHELF?

S/A  
T/C

Find the quadrant in which the angle is located and then sketch a diagram of the angle. Then find the required trig values and match with a value below.

$-90^\circ < \theta < 90^\circ$ $a^2 + \sqrt{3}^2 = 2^2$ $a^2 = 4 - 3$ $a^2 = 1$	$\sin(\theta) = \frac{\sqrt{3}}{2}$ <small>(theta) Pos</small>	1) $\cos(\theta) = \frac{1}{2}$ <sup>S</sup>	2) $\tan(\theta) = \frac{\sqrt{3}}{1} = \sqrt{3}$ <sup>P</sup>
	3) $\csc(\theta) = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$ <sup>E</sup>	4) $\sec(\theta) = 2$ <sup>R</sup>	5) $\cot(\theta) = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ <sup>N</sup>
$0^\circ < \alpha < 180^\circ$ $(-3)^2 + b^2 = 5^2$ $b^2 = 25 - 9$ $b^2 = 16$	$\sin(\alpha) = \frac{4}{5}$ <small>(alpha) W</small>	$\cos(\alpha) = -\frac{3}{5}$ <small>neg</small>	7) $\tan(\alpha) = -\frac{4}{3}$ <sup>I</sup>
	8) $\csc(\alpha) = \frac{5}{4}$ <sup>T</sup>	9) $\sec(\alpha) = -\frac{5}{3}$ <sup>O</sup>	10) $\cot(\alpha) = -\frac{4}{3}$ <sup>A</sup>
$90^\circ < \theta < 270^\circ$ $(-1)^2 + b^2 = 4^2$ $b^2 = 16 - 1$ $b^2 = 15$	$\sin(\theta) = -\frac{1}{4}$ <small>(theta) E</small>	12) $\cos(\theta) = -\frac{\sqrt{15}}{4}$ <sup>V</sup>	13) $\tan(\theta) = \frac{1}{\sqrt{15}} = \frac{\sqrt{15}}{15}$ <sup>H</sup>
	$\csc(\theta) = -\frac{4}{1}$ <small>neg</small>	14) $\sec(\theta) = -\frac{4}{\sqrt{15}} = -\frac{4\sqrt{15}}{15}$ <sup>G</sup>	15) $\cot(\theta) = \sqrt{15}$ <sup>Q</sup>
$180^\circ < \beta < 360^\circ$ $(-5)^2 + 12^2 = c^2$ $25 + 144 = c^2$ $169 = c^2$	$\sin(\beta) = -\frac{5}{13}$ <small>(beta) O</small>	17) $\cos(\beta) = \frac{12}{13}$ <sup>T</sup>	$\tan(\beta) = -\frac{5}{12}$ <small>neg</small>
	18) $\csc(\beta) = -\frac{13}{5}$ <sup>U</sup>	19) $\sec(\beta) = \frac{13}{12}$ <sup>H</sup>	20) $\cot(\beta) = -\frac{12}{5}$ <sup>D</sup>

### Values

A. $-\frac{3}{4}$	B. $\frac{3}{4}$	C. $\frac{3}{5}$	D. $-\frac{12}{5}$	E. $\frac{2\sqrt{3}}{3}$	F. $-\frac{1}{4}$	G. $-\frac{4\sqrt{15}}{15}$	H. $\frac{\sqrt{15}}{15}$
H. $\frac{13}{12}$	I. $-\frac{4}{3}$	N. $\frac{\sqrt{3}}{3}$	O. $-\frac{5}{3}$	O. $-\frac{5}{13}$	P. $\sqrt{3}$	Q. $\sqrt{15}$	R. 2
S. $\frac{1}{2}$	T. $\frac{5}{4}$	T. $\frac{12}{13}$	U. $-\frac{13}{5}$	V. $-\frac{\sqrt{15}}{4}$	W. $\frac{4}{5}$	X. $-\frac{\sqrt{3}}{3}$	Y. $\frac{\sqrt{7}}{3}$

He didn't want

the high pot in use

to have square roots