

**45** Since  $\tan \alpha = \frac{7}{24}$ ,  $\alpha = \tan^{-1} \frac{7}{24} \approx 16.3^\circ$ . Since  $\tan \beta = \frac{24}{7}$ ,  $\beta = \tan^{-1} \frac{24}{7} \approx 73.7^\circ$ .

By the Pythagorean theorem:  $c^2 = 7^2 + 24^2 \Rightarrow c^2 = 625 \Rightarrow c = 25$ .