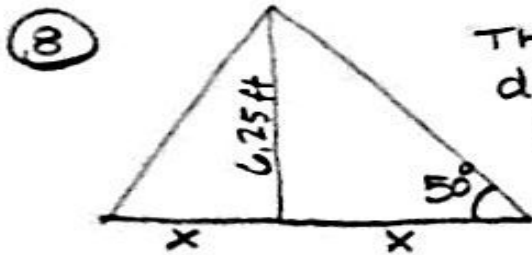


$$\sin x = \frac{100}{110}$$

$$x = \sin^{-1}\left(\frac{100}{110}\right)$$

$$x \approx 65^\circ$$

The maximum safe angle is about 65° .



The center pole would divide the tent in half
(Do not go by looks of the sketch)

$$\tan 50 = \frac{6.25}{x}$$

$$x \tan 50 = \frac{6.25}{x} \cdot x$$

$$\frac{x \tan 50}{\tan 50} = \frac{6.25}{\tan 50}$$

$$x = \frac{6.25}{\tan 50}$$

Width of tent = $2x$

$$= \left(\frac{6.25}{\tan 50}\right)(2)$$

$$\approx 14.90 \text{ ft}$$

*NO rounding in the middle of the problem!!