

Calculate the value of  $x$  without drawing any right-angled triangles or using Pythagoras theorem or a calculator.

$$(a) \sin \theta = x, \cos \theta = \frac{11}{4}, \tan \theta = \frac{4}{\sqrt{89}}$$

Solution:

$$\tan \theta = \frac{\sin \theta}{\cos \theta}$$

$$\boxed{\phantom{00}} = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$$

$$x = \boxed{\phantom{00}} \boxed{\phantom{00}}$$

$$x = \boxed{\phantom{00}}$$

Drag from here:

$$\frac{x}{\frac{11}{4}}$$

$$\frac{4}{\sqrt{89}}$$

$$\frac{4}{\sqrt{89}} \times$$

$$\frac{11}{4}$$

$$\frac{11}{\sqrt{89}}$$

