Application Problem Section 5.2

**Application Problems**

1. Suppose that \( \sin \theta = \frac{K}{4} \) where ‘K’ is a nonzero constant. Find the values of the other 5 trigonometric functions in terms of ‘K’.

2. Suppose \( \sin(\theta) = \frac{a}{b} \) (where a and b are nonzero constants). Find the following in terms of ‘a’ and ‘b’:
   a) \( \csc(\theta) \)     b) \( \cos^2(\theta) - 1 \)     c) \( \tan^2(\theta) \)     d) \( \sin(\theta + 4\pi) \)

3. Find the exact values of x and y in the triangle below:

![Diagram of a triangle with angles and sides labeled]

\( x \) \( y \)