

## Precalculus

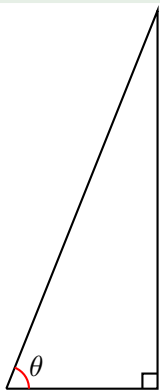
# Compute the trigonometric functions in a right angle triangle, part 2

Todor Milev

2019

## Example

If  $\cos \theta = \frac{2}{5}$  and  $0 < \theta < \frac{\pi}{2}$ , find the other five trigonometric functions of  $\theta$ .



$$\sin \theta =$$

$$\tan \theta =$$

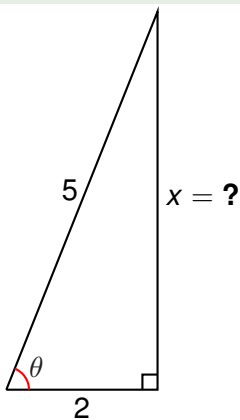
$$\csc \theta =$$

$$\sec \theta =$$

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- Label the hypotenuse with length 5 and the adjacent side with length 2.

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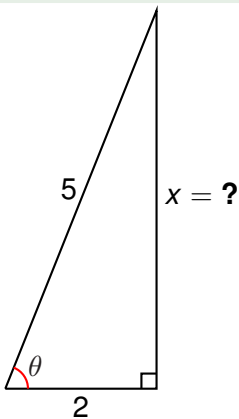
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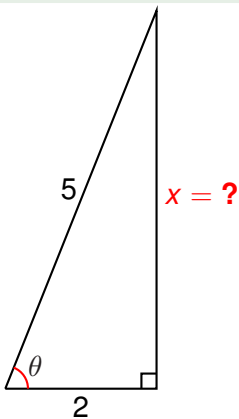
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- Therefore  $x^2 = ?$  , so  $x = ?$  .

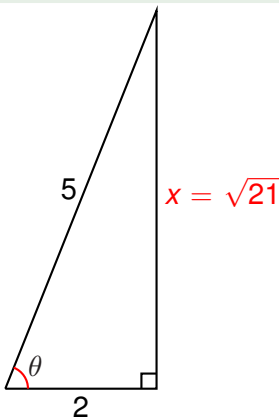
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- Therefore  $x^2 = 21$ , so  $x = \sqrt{21}$ .

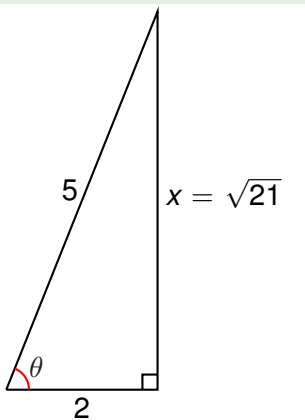
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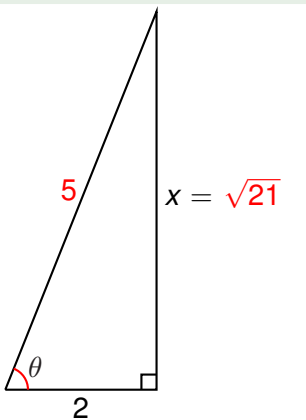
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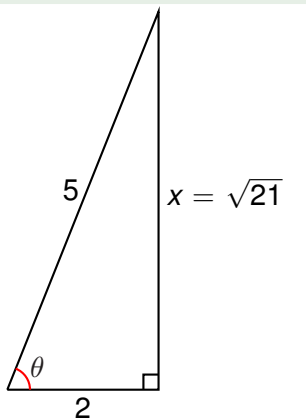
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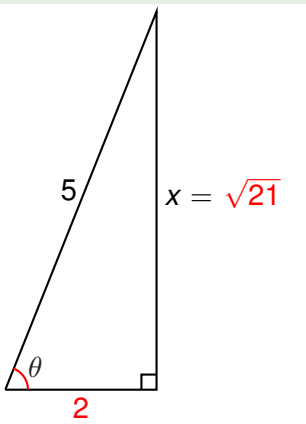
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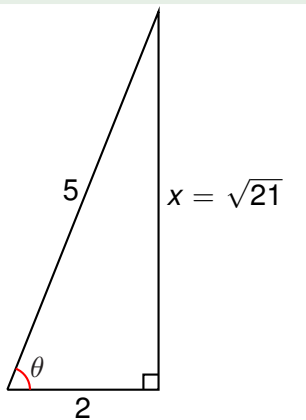
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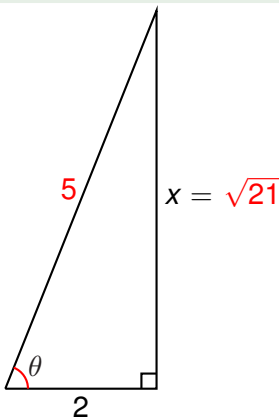
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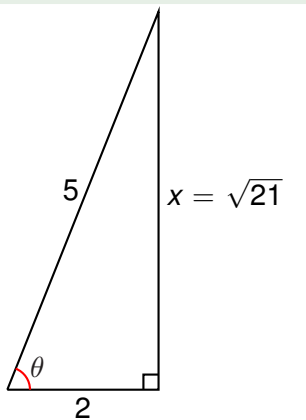
$$\sin \theta = \frac{\sqrt{21}}{5} \quad \tan \theta = \frac{\sqrt{21}}{2}$$

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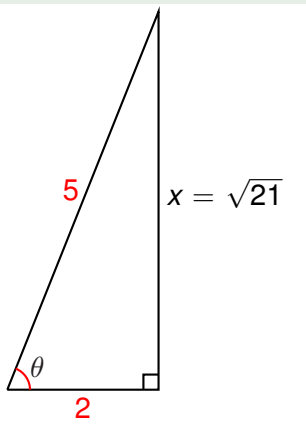
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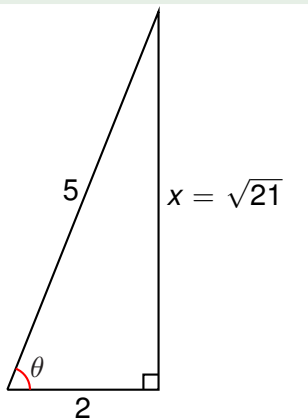
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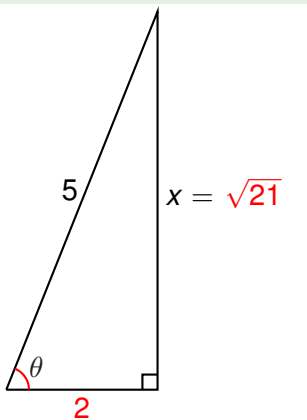
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$$\cot \theta = \frac{2}{\sqrt{21}}$$