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# Applications in Trigonometry

## Trigonometric Ratios of Special Angles

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Note that and , i.e., , and . Also note that , i.e., etc. You may remember the trigonometric ratios in the sequence presented, or derive them based on the angles you know with these handy formulae.

### Worded Example 1A picture containing diagram Description automatically generated

In , and . is a point on such that . If , find the length of . Leave your answer in surd form and no calculator is allowed.

Solution

*(given)*

## Gradients

Let a straight line represent the inclined plane, and the vertical distance and the horizonal distance.

Gradients are usually represented in the form of , i.e., . This can be done by simplifying the ratio.

Inclination is the angle between the inclined plane and the horizontal plane. The gradient can be found given the inclination and vice versa.