

Which substitution?

Teacher notes

Why use this resource?

This problem highlights the fact that using different substitutions for an integral can lead to answers given in different forms. Students are asked to think about how the two answers relate to each other, which offers a reminder about the importance of the constant of integration.

Preparation

Students should be familiar with integration by substitution and inverse trigonometric functions.

Key questions

- Why do we get two different answers?
- Are both the answers correct?

Possible support

Encouraging students to sketch graphs for their two answers could help them to understand why both answers are correct.

Possible extension

Students could be asked to find other integrals where it is possible to use different substitutions to arrive at an answer.