Exercise

Integrate.

Solution

As

Then

Use the table of integrals:

**Answer:**

Use the change of variable, trigonometric substitution:

Then

Now use universal trigonometric substitution:

Then

Consider the fraction:

Use the method of undetermined coefficients. Expand it to the sum of fractions:

Then

Use the table of integrals:

Contact replacement

Again contact replacement

**Answer:**

Use the change of variable, trigonometric substitution:

Then

Use the table of integrals:

then

Contact replacement

**Answer:**

As

then

As

Then

Use the table of integrals:

Then

**Answer:** .