 Finding the mistakes

Finding the missing or incorrect step

Question 1

Prove by induction

Initial statement

For example: for all integers

Step 1

As given, the statement is true for

For example:

for all integrals

Step 2

Now test if the statement is true for for all integrals

For example: to prove that

For all integrals

LHS =

*=*  because

=

=

=

RHS =

=

Hence proved.

Answer

Question 2

Prove that that for all

Step 1 – test for

LHS =

RHLHS = S =

=

= 1

LHS = RHS hence proved.

Step 2

Hence assume true for

For example: for all

Therefore, the initial statement is proved.

Answer

Question 3

Prove that for all

Step 1

Assume it to be true for and rewrite the statement.

For example: for all

Step 2

Now prove that the statement is true for

For example: prove that

for all

LHS =

=

=

=

RHS =

=

LHS = RHS

Hence proved.

Answer