**Partial fraction 2**

1. Write in partial fractions.

Put

Put , Then

2. Partial fraction:

3. Partial fraction:

Since both and are monic and of degree three,

Put in (1),

4. Partial fraction: and deduce

**Method 1**

(1)

(2)

(3)

**Method 2**

**Method 3**

In general,

**5.** Evaluate

6. Partial fraction:

Cube:

Multiply both sides by ,

7. Partial fraction:

8. Partial fraction:

Using long division, divide by , we can get  
the quotient = and remainder = .

Hence

9. Partial fraction:

10. Partial fraction:

This can be done just by inspection. First observe that:

, by (1)

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