Applications of de Moivre’s

**Trig identities**

De Moivre’s theorem can be used to give multiple angle expressions (/ ) in terms of powers, and to express powers of sin and cos in terms of multiple angles. This is useful in integration.

We derive these identities by applying the binomial expansion to

Recap

+….

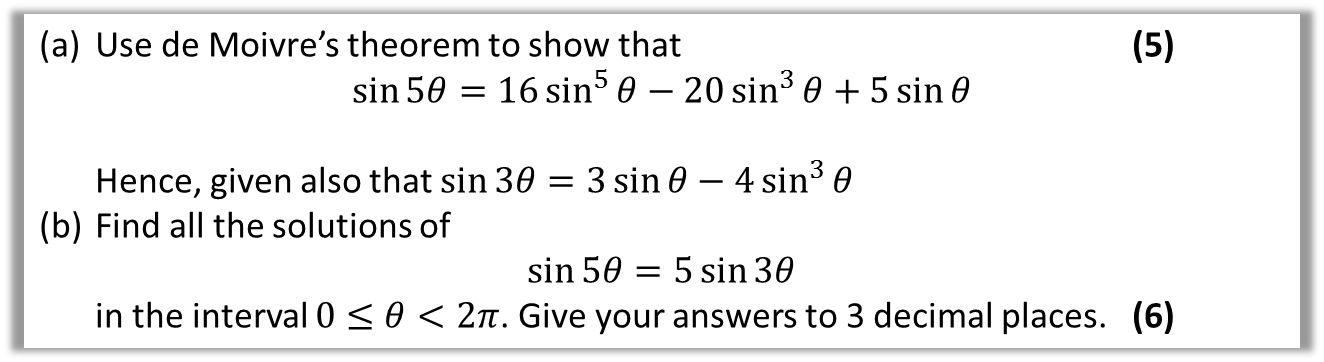
1. **Expressing and in terms of powers of**

Example

Express in terms of powers of

Test Your understanding

1. **Express in terms of**

2.

**b. Finding expressions for and**

**Exponential Form**

**Examples**

**1. Express in the form**

**2. Prove that**

Test Your Understanding

**a) Express in the form**

**(b) Hence find the exact value of**

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