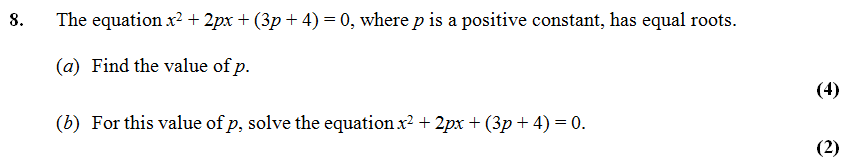
The Discriminant

Quickfire questions:

|  |  |  |
| --- | --- | --- |
| Equation | Discriminant | No. of distinct real roots |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Example:



Test Your Understanding:

1. where is a positive constant.

Given that this equation has equal roots, determine the value of .

2. Find the range of values of for which has two distinct real solutions.

Extension:

1.

[MAT 2009 1C] Given a real constant , the equation has four real solutions (including possible repeated roots) for:

4. all values of

[MAT 2006 1B] The equation has how many real root(s)?

2.

[MAT 2011 1B] A rectangle has perimeter and area . The values and must satisfy:



3.

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