Points of Intersection

If and , then the values of the points of intersection can be found when .

Examples:

1. On the same diagram sketch the curves with equations and . Find the coordinates of their points of intersection.

2. On the same diagram sketch the curves with equations and , where are positive constants. State, giving a reason, the number of real solutions to the equation

Test Your Understanding

On the same diagram sketch the curves with equations and , and hence find the coordinates of any points of intersection.

Extension

1. [MAT 2005 1B]

The equation

1. has as a solution;
2. has no real solutions;
3. has an odd number of real solutions;
4. has twenty real solutions.

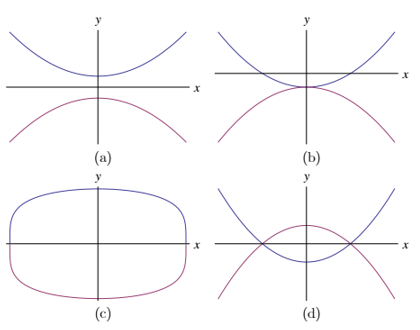
2. [MAT 2010 1A] The values of for which the line intersects the parabola are precisely

1. B)

C) or D)

3. [MAT 2013 1D]

Which of the following sketches is a graph of ?



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