



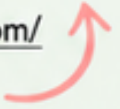
JP Maths

Revision



Attempt the paper
before watching the
solutions!

[https://www.youtube.com/
@JPMathsRevision](https://www.youtube.com/@JPMathsRevision)



HIGHER TIER

The Quadratic Formula



INSTRUCTIONS

- Use **black ink** or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.



INFORMATION

- The marks for **each** question are shown in brackets– *use this as a guide as to how much time to spend on each question.*



ADVICE

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.



You've got this!

1. Solve $x^2 + 7x + 4 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 1 is 3 marks)

2. Solve $2x^2 + 5x + 1 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 2 is 3 marks)

3. Solve $3x^2 + 7x + 1 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 3 is 3 marks)

4. Solve $x^2 - 8x + 2 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 4 is 3 marks)

5. Solve $3x^2 - 5x + 1 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 5 is 3 marks)

6. Solve $x^2 - 7x - 2 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 6 is 3 marks)

7. Solve $-x^2 - x + 1 = 0$

Give your answers to 3 significant figures

.....
(Total for Question 7 is 3 marks)

8. Solve $7x = 1 - x^2$

Give your answers to 3 significant figures

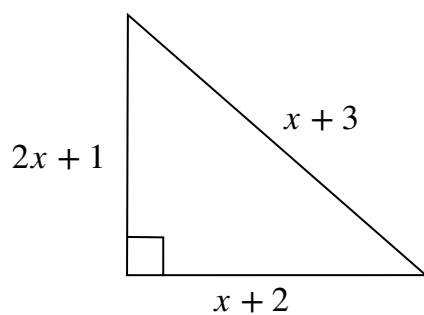
.....
(Total for Question 8 is 3 marks)

9. Solve $2x^2 = 3x + 1$

Give your answers to 3 significant figures

.....
(Total for Question 9 is 3 marks)

10. Below is a right angled triangle with lengths $2x + 1$, $x + 2$ and $x + 3$.



- (a) Show that $2x^2 + x - 2 = 0$

.....
(3)

- (b) Find the area of the triangle, giving your answer to 3 significant figures.

.....
(3)

(Total for Question 10 is 6 marks)
