

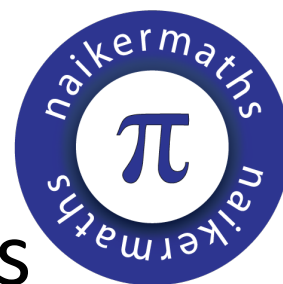
Name:.....

Total Marks:.....

GCSE (9-1) Grade 8/9

Quadratic

Simultaneous Equations



Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name.
- Answer **all** questions.

Answer the questions in the spaces provided

– there may be more space than you need.

- **Show all your working out**

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets.
 - use this as a guide as to how much time to spend on each question.
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed

Advice

- Read each question carefully before you start to answer it
- Attempt every question
- Check your answers if you have time at the end



1. Solve algebraically the simultaneous equations

$$y = x^2$$

$$y = 2x + 15$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



2. Solve algebraically the simultaneous equations

$$y = x^2$$

$$y = 7x - 10$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



3. Solve algebraically the simultaneous equations

$$y = 2x^2$$

$$y = 20 - 3x$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



4. Solve algebraically the simultaneous equations

$$y = 3x - 1$$

$$x^2 + y^2 = 5$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



5. Solve algebraically the simultaneous equations

$$x^2 + y^2 = 20$$

$$y = 10 - 2x$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



6. Solve algebraically the simultaneous equations

$$y = 3x + 2$$

$$x^2 + y^2 = 20$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



7. Solve algebraically the simultaneous equations

$$2x + y = 6$$

$$x^2 + y^2 = 20$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)



8. Solve algebraically the simultaneous equations

$$2x - y = 7$$

$$x^2 + y^2 = 34$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)



9. Solve algebraically the simultaneous equations

$$y = 5x - 1$$

$$y = (x + 1)^2$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 6 marks)



10. Solve algebraically the simultaneous equations

$$xy = 12$$

$$y - 3x = -9$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)



11. Solve algebraically the simultaneous equations

$$xy = 9$$

$$y - 3x = 6$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)



12. Solve algebraically the simultaneous equations

$$xy = 7$$

$$y - 2x = 5$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)



13. Solve algebraically the simultaneous equations

$$x^2 + y^2 = 25$$

$$y - 2x = 5$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)



14. Solve algebraically the simultaneous equations

$$y = 3x^2 + 7x + 9$$

$$y = 4x + 15$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 5 marks)



15. Solve algebraically the simultaneous equations

$$3y^2 + 4x^2 = 16$$

$$y - 2x = -4$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

$$x = \dots\dots\dots, y = \dots\dots\dots$$

(Total 7 marks)

TOTAL FOR PAPER IS 90 MARKS