

Name:

Date:

Factorising and Solving Harder Quadratics

GCSE

Edexcel

Mathematics

Grade (9-1)

Mark

Score (%)

<hr/> 56

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1 Factorise $2x^2 + 7x + 3$

Leave
blank

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

2 Factorise $3x^2 + 7x + 2$

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

3 Factorise $3x^2 + 16x + 16$

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blank

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

4 Factorise $7x^2 + 26x + 15$

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

5 Solve $2x^2 + 3x - 9 = 0$

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(Total for question 5 is 3 marks)

6 Solve $2x^2 + 3x - 27 = 0$

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

7 Solve $2x^2 - 18x + 28 = 0$

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(Total for question 7 is 3 marks)

8 Solve $15x^2 - 34x + 15 = 0$

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

Leave
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9 Solve $7x^2 + 52x + 21 = 0$

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

10 Solve $25x^2 + 65x + 30 = 0$

.....
(Total for question 10 is 3 marks)

11 Solve $8x^2 - 16x + 6 = 0$

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.....
(Total for question 11 is 3 marks)

12 Solve $9x^2 - 36x + 36 = 0$

.....
(Total for question 12 is 3 marks)

13 Solve $-2x^2 + 7x - 6 = 0$

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.....
(Total for question 13 is 3 marks)

14 Solve the equation $-9x^2 + 67x - 28$

.....
(Total for question 13 is 3 marks)

15 Solve the equation $10x^2 - 12x - 8 = -3x + 1$

Leave
blank

.....
(Total for question 13 is 3 marks)

16 Solve the equation $11x^2 + 74x + 21 = 5x^2 + x + 9$

.....
(Total for question 13 is 3 marks)

17 James is $2x$ years old.
 His brother John is two years old than James.
 The product of their ages is 120.

(a) What is James' age in years?

.....

(b) What is John's age in years?

.....

(Total for question 15 is 4 marks)

18 A playground which is in the shape of a rectangle has a length which is four times longer than the width.
 The area of the playground is 6400m^2 .
 Work out the perimeter of the playground.

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(Total for question 16 is 4 marks)