2.3 Quadratic Equations: Factorising, the Formula and Completing the Square: 10-minute Pack

AQA 8365 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Which of the following is the correct factorisation of $x^2 + 2x - 15$?

- ☐ A) $(x+5)(x-3)$
- ☐ B) $(x-5)(x+3)$
- ☐ C) $(x+15)(x-1)$
- ☐ D) $(x-15)(x+1)$

(Total for Question 1 is 1 mark)

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2 Solve the equation $x^2 + 3x - 10 = 0$ by factorising. Show your working.

(Total for Question 2 is 3 marks)

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3 Factorise fully: $6x^2 + 7x - 3$

(Total for Question 3 is 3 marks)

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4 Write $2x^2 - 16x + 50$ in the form $a(x + p)^2 + q$, where a, p and q are integers.

(Total for Question 4 is 3 marks)

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Mark scheme · 2.3 Quadratic Equations: Factorising, the Formula and Completing the Square: 10-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

A cao	**B1**

Answer: A

Question 2

attempt to factorise, e.g. seeking numbers with product -10 and sum 3	**M1**
(x+5)(x-2) = 0 oe cao	**A1**
x = -5 and x = 2 (both values) cao	**A1**

Answer: x = -5 or x = 2

Question 3

correct split of middle term using ac = -18, e.g. $6x^2 + 9x - 2x - 3$	**M1**
correct partial factorisation, e.g. 3x(2x+3) - 1(2x+3)	**A1**
(3x-1)(2x+3) cao	**A1**

Answer: (3x-1)(2x+3)

Question 4

$2[(x - 4)^2 ...]$ seen	**M1**
p = -4 correct	**A1**
$2(x - 4)^2 + 18$ cao	**A1**

Answer: $2(x - 4)^2 + 18$

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