FACTORISING QUADRATICS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1. $x^2 + 3x - 10$
2. $x^2 - 2x - 15$
3. $x^2 + 5x - 14$
4. $x^2 - 4x - 21$
5. $x^2 + 7x - 18$
6. $x^2 - 6x - 27$
7. $x^2 + 9x - 22$
8. $x^2 - 8x - 33$
9. $x^2 + 11x - 26$
10. $x^2 - 10x - 39$
11. $x^2 + 13x - 30$
12. $x^2 - 12x - 45$
13. $x^2 + 15x - 34$
14. $x^2 - 14x - 51$
15. $x^2 + 17x - 38$
16. $x^2 - 16x - 57$
17. $x^2 + 19x - 42$
18. $x^2 - 18x - 63$
19. $x^2 + 21x - 46$
20. $x^2 - 20x - 69$
21. $x^2 + 23x - 50$
22. $x^2 - 22x - 75$
23. $x^2 + 25x - 54$
24. $x^2 - 24x - 81$
25. $x^2 + 27x - 58$
26. $x^2 - 26x - 87$
27. $x^2 + 29x - 62$
28. $x^2 - 28x - 93$
29. $x^2 + 31x - 66$
30. $x^2 - 30x - 99$

MASTER QUESTIONS

M1. A rectangle has an area of $x^2 + 5x - 14$ square centimetres. Factorise to find possible dimensions.

M2. The area of a garden is $x^2 - 4x - 21$ square metres. Factorise to determine possible length and width.

M3. A triangle's area is given by $\frac{1}{2}(x^2 + 7x - 18)$. Factorise the quadratic expression.

M4. The product of two consecutive numbers is $x^2 - 6x - 27$. Factorise to find the numbers.

M5. A square's area increased by its side length equals $x^2 + 9x - 22$. Factorise the expression.

M6. The difference between a number squared and eight times the number is 33. Represent as $x^2 - 8x - 33$ and factorise.

M7. A field's length is 11 metres more than its width, and its area is $x^2 + 11x - 26$. Factorise to find dimensions.

M8. If a number is 10 less than another and their product is $x^2 - 10x - 39$, factorise to find the numbers.

M9. The perimeter of a rectangle is $2x + 26$ and area is $x^2 + 13x - 30$. Factorise the area expression.

M10. A right-angled triangle has legs differing by 12 and area $\frac{1}{2}(x^2 - 12x - 45)$. Factorise the quadratic.