FACTORISING QUADRATICS

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

MAIN QUESTIONS

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

29. $x^2 + 31x - 66$ | $(x + 33)(x - 2)$

30. $x^2 - 30x - 99$ | $(x - 33)(x + 3)$

MASTER QUESTIONS

M1. A rectangle has an area of $x^2 + 5x - 14$ square centimetres. Factorise to find possible dimensions. | $(x + 7)(x - 2)$

M2. The area of a garden is $x^2 - 4x - 21$ square metres. Factorise to determine possible length and width. | $(x - 7)(x + 3)$

M3. A triangle's area is given by $\frac{1}{2}(x^2 + 7x - 18)$. Factorise the quadratic expression. | $(x + 9)(x - 2)$

M4. The product of two consecutive numbers is $x^2 - 6x - 27$. Factorise to find the numbers. | $(x - 9)(x + 3)$

M5. A square's area increased by its side length equals $x^2 + 9x - 22$. Factorise the expression. | $(x + 11)(x - 2)$

M6. The difference between a number squared and eight times the number is 33. Represent as $x^2 - 8x - 33$ and factorise. | $(x - 11)(x + 3)$

M7. A field's length is 11 metres more than its width, and its area is $x^2 + 11x - 26$. Factorise to find dimensions. | $(x + 13)(x - 2)$

M8. If a number is 10 less than another and their product is $x^2 - 10x - 39$, factorise to find the numbers. | $(x - 13)(x + 3)$

M9. The perimeter of a rectangle is $2x + 26$ and area is $x^2 + 13x - 30$. Factorise the area expression. | $(x + 15)(x - 2)$

M10. A right-angled triangle has legs differing by 12 and area $\frac{1}{2}(x^2 - 12x - 45)$. Factorise the quadratic. | $(x - 15)(x + 3)$