

Show all working - Calculator only required for Qu. 2

1.	Solve these quadratic equations algebraica	lly.		<u>Marks</u>
	<b>a</b> ) $x(x-4) = 0$	<b>(b)</b>	$5x^2 - 15x = 0$	
	c) $x^2 + 8x + 12 = 0$	( <b>d</b> )	$6x^2 - 7x = 3$	(9)
2.	Solve these quadratic equations, correct to <b>a</b> ) $3x^2 - 3x - 5 = 0$	2 deci (b)	mal places. $4x(x-2) = 7$	(7)
3.	Use the discriminant to determine the natu a) $x^2 - 6x + 8 = 0$	re of ti (b)	the roots of these quadratic equations. $4x^2 + x + 5 = 2$	(5)

- 4. Find the solutions to all the quadratic equations in question 3 that can be solved. (3)
- 5. The diagram below represents a garden's lawn with length (x + 7) metres and breadth (x + 3) metres.



- a) Show that the area, A square metres, of the lawn is given by  $A = x^2 + 10x + 21$  (2)
- **b**) The area of the lawn is  $45m^2$ . Find the length and breadth of the lawn.

(4)

**Total Marks: 30**