

MATH 5.1EL

Assignment 2

(More About Equations)

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Answer the questions in the spaces provided on the question sheets. If you do not know how to answer a certain question, write down where you get stuck. Answers can be corrected to 3 significant figures if necessary.

Name, class, class no.: _____

Tutor's name: _____

1. (a) Solve the quadratic equation $x^2 - 4x - 5 = 0$.
- (b) Find the coordinate of vertex of $y = x^2 - 4x - 5$ by completing square.
- (c) State whether the quadratic function open upwards or downwards. Hence, sketch the graph of $y = x^2 - 4x - 5$
- (d) Hence, solve the inequality $x^2 - 4x - 5 \geq 0$ and represent the solutions on a number line.

[illegible]

[illegible]

3. Solve $x^2 - 2x - 2 > 0$ by using **compound inequalities**

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4. Solve $x^2 + 3x - 10 > 0$ by using the **tabulation method**.

[illegible]

(a) $x^2 - 8x + 20 < 0$

(b) $-x^2 + 10x - 28 \leq 0$

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7. Find the range of values of k if quadratic equation in x : $x^2 + kx + (k^2 - 3) = 0$ has

(a) two distinct real roots

(b) no real roots

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8. If $x^2 - (2k + 1)x + 2k + 1$ is always positive for all real values of x , find the range of values of k .

[illegible]

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- [illegible]

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