College Algebra	Name:
Study Guide 13	Class:
Due Date:	Score:

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

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1. Consider $p(x) = x^3 - 3x^2 - 6x + 8$,

(a) (1 point) What is the number of maximum zeros?

(a) _____

(b) (3 points) Discuss the number of positive, negative, and complex zeros. Show your answers in the chart (Insert additional rows if needed).

Solution Types			
Positive	**Negative**	**Complex**	**Total**

(c) (2 points) List all possible rational zeros.

(c) _____

(d) (3 points) Show that -3 is a lower bound.

(d) _____

(e) (4 points) Find all zeros for this polynomial. Express your answer in a solution set.

(e) _____

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2. Consider $x^4 - 2x^3 + 10x^2 - 18x + 9 = 0$,

(a) (3 points) Discuss the number of positive, negative, and complex zeros. Show your answers in the chart (Insert additional rows if needed).

Solution Types			
Positive	**Negative**	**Complex**	**Total**

(b) (2 points) List all possible rational zeros.

(b) _____

(c) (3 points) Show that 2 **is an upper bound.**

(c) _____

(d) (4 points) Find all zeros including complex zeros if there are any. Express your answer in a solution set.

(d) _____

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3. Consider $p(x) = 2x^3 - 3x^2 - 8x + 12$,

(a) (3 points) Discuss the number of positive, negative, and complex zeros. Show your answers in the chart (Insert additional rows if needed).

Solution Types			
Positive	**Negative**	**Complex**	**Total**

(b) (3 points) List all possible rational zeros.

(b) _____

(c) (3 points) Show that -3 is a lower bound.

(c) _____

(d) (4 points) Find all zeros for this polynomial. Express your answer in a solution set.

(d) _____

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4. Consider $4x^4 - 21x^2 - 25 = 0$,

(a) (3 points) Discuss the number of positive, negative, and complex zeros. Show your answers in the chart (Insert additional rows if needed).

Solution Types			
Positive	**Negative**	**Complex**	**Total**

(b) (3 points) List all possible rational zeros.

(b) _____

(c) (3 points) Show that 3 **is an upper bound.**

(c) _____

(d) (3 points) Show that -3 **is a lower bound.**

(d) _____
