

College Algebra
Chapter 3 Test

1. Solve: $x^2 - x - 20 > 0$

2. Find the vertical asymptote, horizontal asymptote, slant asymptote, and graph of:

$$f(x) = \frac{x^3 - 5x^2 + 3x - 8}{x^2 - 14x + 40}$$

3. Find the vertex, axis of symmetry, any min and/or max's and the graph of:

$$f(x) = x^2 - 8x + 3$$

For problems 4-10, use the synthetic division method to find the answers for full credit (unless the calculator gives you all the answers) (these are just examples, you should know how to handle fractional answers, radical answers via square root property and quadratic formula, and repeated answers)

4. $x^4 - 2x^3 + 65x^2 - 128x + 64 = 0$

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5. $6x^3 + 19x^2 - 92x + 60 = 0$

6. $x^3 - 2x^2 - 9x + 4 = 0$

7. $x^4 + 24x^2 - 25 = 0$

8. $x^4 - 8x^3 + 4x^2 + 24x - 21 = 0$

9. $x^3 - 6x^2 - 7x + 42 = 0$

10. $x^3 - 4x^2 + x - 4 = 0$