Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebra II

Score: \_\_\_\_\_\_ / 20

Period: \_\_\_\_\_\_\_\_\_\_\_\_\_ **Cumulative Review #5.1**

***Directions:*** Show all work in order to receive full credit. A correct answer with no supporting work will only receive one credit. Be sure to show all appropriate formulas and formula substitutions as part of your work.

1. Solve the following equation. $\frac{3}{x-3}=\frac{1}{x-1}+\frac{7}{\left(x-1\right)\left(x-7\right)}$
2. If ** and  is in Quadrant III*,* then is equivalent to

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

1. Which binomial is *not* a factor of the expression $x³-11x^{2}+16x+84$? **[show all work for full credit]**
	1. x+2 b. x+4 c. x–6 d. x–7
2. a. Graph $f\left(x\right)=x^{3}-2x-4$.



b. Based on the graph, what is the real solution to the equation $x^{3}-2x-4=0$?

c. Write f(x) as a product of a linear and a quadratic factor.