Concentration vs Time
Graphing Activity

Produce a graph using the following data and answer the questions based on the graph.

Time (s)	**$[FeSCN^{2+}]$ (mol/L)**	**$[SCN^{-}]$ (mol/L)**	**$[Fe^{3+}]$ (mol/L)**	**$[Fe^{3+}]$ after stress (mol/L)**
0	0	2.5	4	
5	1	1.75	3.25	
10	1	1.5	3	
11	1	1.5	3	
12	1	1.5	3	
13	1	1.5	3	
14	1	1.5	3	7
15	1	1.5		6
20	1.5	1.25		5
25	1.5	1.25		5
30	1.5	1.25		5

Questions:

1. Write a balanced equation to represent the reaction.

2. How much time was required for the system to reach equilibrium?

3. Calculate the approximate value of the equilibrium constant from the concentrations at 10 seconds.

4. Calculate the approximate value of the equilibrium constant from the concentrations at 20 seconds.

5. How do the two values from 3 and 4 compare? Why?

6. What was the stress that occurred at 14 seconds?

7. How would the addition of a positive catalyst change the shape of this graph?