Answers:

Q1. Your values might vary slightly depending on your rounding.

|  |  |  |
| --- | --- | --- |
| Iteration | Input (Percent Sick) | Output (percent Sick) |
| 1 | 0.04 | 0.0576 |
| 2 | 0.0576 | 0.08142 |
| 3 | 0.08142 | 0.11219 |
| 4 | 0.11219 | 0.14941 |
| 5 | 0.14941 | 0.19063 |
| 6 | 0.19063 | 0.23143 |
| 7 | 0.23143 | 0.26681 |
| 8 | 0.26681 | 0.29343 |
| 9 | 0.29343 | 0.31099 |
| 10 | 0.31099 | 0.32142 |

Q2. 0.190625313\*600 114.375

114 people are sick

Q3. The initial growth is concave up, but it then slows and the values appear to be stabilizing at around 1/3 (0.333 of the population or 200 people) getting sick.

Q4.

*x* 1.5*x*1*x*

*x* 1.5*x* 1.5*x*²

0 0.5*x* 1.5*x*²

0 *x*0.5 1.5*x*

*x* 0 *or*  0.5 1.5*x* 0

 0.5 1.5*x*

 *x* $\frac{0.5}{1.5}$

 *x* $\frac{1}{3}$

Q.5 The values in both cases approach the intersection between the parabola and the line *y* *x.*

*Stabilization is at 0.6 or 360 people getting sick.*



*x* 2.5*x*1*x*

*x* 2.5*x* 2.5*x*²

0 1.5*x* 2.5*x*²

0 *x*1.5 2.5*x*

*x* 0 *or*  1.5 2.5*x* 0

 1.5 2.5*x*

 *x* $\frac{1.5}{2.5}$

 *x* $\frac{3}{5}$