1. C
   The solution for the system of equations is $x = 0$, $y = 9$, and $z = 2$. While these are three numbers they are one solution to the system of equations.

   Solve the system using rref and you get $x = 3.6$ and $y = 88$

2. B

3. C
   Note: x is measured in hundreds of items and the question is asking for the number of items. i.e. multiple by 100 to get the number of items.

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4. A
   Time start with zero in 2000. Here is the information that should be typed into the calculator.

x	2	3	5	7
y	3	7	8	16

5. D
   The points are $(5, 300)$ and $(15, 700)$

6. C

7. D
   last row means one of the equations was extra information.

8. B

9. E
   Solving $JX = K$ for the matrix X give $X = J^{-1}K$. Now compute $J^{-1}K$ using the calculator.

10. C
    The last row indicates that there is no solution. Also saying no solution means that there is no solution for all of the variables.

11. A
    Break even is when profit is equal to zero. solving for this gives $x = 22$. The **break even point** is where the cost and profit functions intersect. Plug the x-value into the cost function to get the y-value of the point.

12. B
    The points for the supply function are $(300, 180)$ and $(50, 100)$. The other points in the problem are for the demand equation.

13. D

14. C
    K is not a square matrix, so the inverse is not possible.

15. C

16. D

17. This problem was omitted. After simplifying, you end up with the following.
    $$\begin{bmatrix} A-2 & -6 \\ -2 & 3-2y \\ 5-2z & -8 \end{bmatrix} = \begin{bmatrix} 12 & 8 \\ 0 & 28 \\ 24 & 12 \end{bmatrix}$$
    notice that the element in row 1 column 1 of both matrices are not equal so that is not any way to solve for the variable since the matrices are not equal.

18. A

19. B
    be sure to line up the variables in these equations and then use rref.

20. D

21. B

22. E
    note $40 \leq z \leq 165$ is all numbers in this interval. since we are talking about apartments, we only want the integers.