**Exploring the Number of Solutions**

Solve each system of equations using the elimination method. (Be prepared for some surprises!) Then graph the system.



1. 3*x* + 2*y* = 24

*x* + 2*y* = 20

|  |  |
| --- | --- |
| 2*. x* + *y* = 4  3*x* + 3*y* = 18    3. –5*x* –3*y* = 30  10*x* + 6*y* = – 60 |  |

1. Describe what the graphs look like if your system has
2. No solution
3. One solution
4. An infinite number of solutions

5. Describe what happens when you eliminate one variable if the system has:

1. No solution
2. One solution
3. An infinite number of solutions

6. Which system in Questions 1–3 is inconsistent? Which system is dependent? Explain.