Remember that on your unit test you will be expected to show a reasonable amount of work that Mr. Smith can follow for full marks. Completing this practice test will give you a good idea about what is on the real test.

1) Solve the following linear system **by graphing**. ➂

a)

$y=-2x+9$ ➀

$y=\frac{1}{4}x-9$ ➁

Point of intersection =

2) Solve the following linear systems by using substitution:

 a) $y=7x+1$ ➀

$3x+4y=35$ ➁

b) $x-3y=4$ ➀

$2x+3y=-1$ ➁

Point of Intersection: Point of Intersection:

3) Solve the following linear systems by using elimination:

 a) $5x-4y=18$ ➀

$3x+4y=62$ ➁

b) $5x+7y=11$ ➀

$2x+3y=5$ ➁

Point of Intersection: Point of Intersection:

4) Solve the following linear systems using any method you’d like:

 a) $2y=x-2$ ➀

$2x+5y=40$ ➁

b) $0.3x+0.4x=1.4$ ➀

$0.1x-0.5y=-0.8$ ➁

Point of Intersection: Point of Intersection:

5) Bort is back doing his linear systems homework. He just finished solving a linear systems problem, and he thinks the solution is (2, 1). Without resolving, show how Bort could check his answer. Was he correct?

a) $79x-43y=115$ ➀

$0.23x+0.41y=0.87$ ➁



6) Will the following linear system have one solution, or no solutions? Justify your answer. A grid is provided if you wish to use it.

$2x+3y=9$ ➀

$4x+6y=-12$ ➁

7) Set up the following two word problems (create the equations). Mr. Smith has assigned variables for you.

|  |
| --- |
| a) Bryden and Asher are playing with their toy cars on the carpet. Together, they have a total of 57 toy cars. Bryden has 33 more cars than Asher. How many cars does each boy have? |
| Let “a” represent how many cars Asher has, and let “b” represent how many cars Bryden has. |
| Equation 1: | Equation 2: |

|  |
| --- |
| b) Mr. Smith is on a road trip to a remote disc golf course 80km away. He travels part of the way at 100km/h along the highway, and part of the way at 50km/h along dirt roads. If it took 2 hours to get there, how many hours did he spend on dirt roads?  |
| Let “h” represent hours spent on the highway, and let “d” represent hours spent on dirt roads. |
| Equation 1: | Equation 2: |

For the following two word problems, full marks will be given for: Assigning variables, creating equations, solving the system, and writing a concluding statement.

8) On the way to playing disc golf with his two boys, Mr. Smith purchases 3 muffins and 2 bottles of water, totaling $9.75. The following week he only has Asher with him, so he purchases 2 muffins and 1 bottle of water totalling $6.00.

What is the cost of one muffing? What is the cost of one bottle of water?

9) Mr. Smith is cleaning up a big mess at home. In the closet, he finds a solution that is 5% bleach, and another stronger solution that is 20% bleach. For this particular job, he needs 600mL of 15% bleach. How much of each type (to the nearest mL) should he mix together to do this cleaning job?

10) Solve the following linear system:

$5\left(x-2\right)+2\left(3y+1\right)=19$ ➀

$3\left(2x-1\right)-2\left(2y-1\right)=9$ ➁

11) Solve the following linear system:

$\frac{2}{3}x-\frac{1}{4}y=0$ ➀

$\frac{1}{9}x-\frac{5}{12}y=-18$ ➁