| Math 1050 A5.2 Systems 3D | Name |
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| 1. Solve the system: $\begin{gathered} x-y-z=4 \\ 2 y+z=-1 \\ -x+y-2 z=5 \end{gathered}$ | 2. Solve the system: $\begin{aligned} & x+y+z=4 \\ & x+3 y+3 z=10 \\ & 2 x+y-z=3 \end{aligned}$ |
| 3. Solve the system: $\begin{aligned} & 2 x+4 y-z=2 \\ & x+2 y-3 z=-4 \\ & 3 x-y+z=1 \end{aligned}$ | 4. Solve the system: $\begin{aligned} & -x+2 y+5 z=4 \\ & x-2 z=0 \\ & 4 x-2 y-11 z=2 \end{aligned}$ |
| 5. Solve the system: $\begin{aligned} & x+y-z=0 \\ & x+2 y-3 z=-3 \\ & 2 x+3 y-4 z=-3 \end{aligned}$ | 6. Solve the system: $\begin{aligned} & 2 x+4 y-z=3 \\ & x+2 y+4 z=6 \\ & x+2 y-2 z=0 \end{aligned}$ |


| 7. A gas station sells regular gas for $\$ 2.80$ <br> per gallon, and premium gas for $\$ 3.20$ per gallon. <br> At the end of a business day 420 gallons of gas were <br> sold, and receipts totaled $\$ 1200$. How many gallons <br> of each type of gas were sold? | 8. A boat on a river travels downstream between 2 <br> points, 20 mi apart, in one hour. The return trip <br> against the current takes $2 \frac{1}{2}$ hours. What is the boat <br> speed, and how fast does the current in the river <br> flow? |
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| 9. A chemist has two large containers of sulfuric acid <br> solution, with different concentrations of acid in each <br> container. Blending 300 mL of the first solution and 600 mL <br> of the second gives a mixture that is $15 \%$ acid, whereas <br> blending 100 mL of the first with 500 mL of the second give <br> a $12 \frac{1}{2} \%$ acid mixture. What are the concentrations of the <br> sulfuric acid in the original containers? | 10. A Sample of bismuth- 210 decayed to $33 \%$ of its <br> original mass after 8 days. <br> a. Find the Half life of this element. |

