Graphing and Solving Systems of Equations – Word Problems

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Directions: For each problem, determine the independent (x) and dependent (y) variables by Directions: For each problem, determine the independent (x) and dependent (y) variables by annotating the text. Write the system of equations. Groph the system to answer annotating the text. Write the system of equations.	
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	nt a video camera for your school project. Murphy's Camera charges a \$30 rental etc. day. Affied Rental charges a \$45 rental fee plus \$30 per day. Which company
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	ke more sense to rent a camera from Murphy's? How do γου know?
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Name: Date: Block:	
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Solving Systems of Equations Word Problems - Classwork

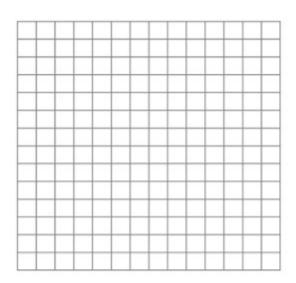
<u>Directions:</u> For each problem, determine the *independent* (x) and *dependent* (y) variables by annotating the text. Write the system of equations. Graph the system to answer the questions that follow.

1. A GameSwap membership costs \$20 and includes one game per month for \$5. Non-members can get one game a month for \$7.

Independent variable (x): ______ Dependent variable (y): ____

System of equations:

Graph:





- a. When does it make more sense to be a member? How do you know?
- b. When does it make more sense to be a non-member? How do you know?
- c. Is there ever a time where it wouldn't matter whether you were a member or not? Explain.
- d. If you were a <u>member</u>, how much would you pay all together after 2 years? Show your work.

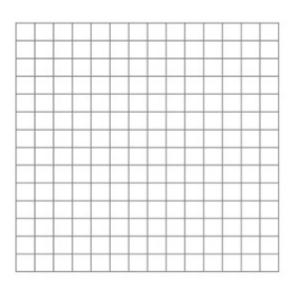
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2. To rent scooters, Sam's Scooters charges a \$30 fee plus \$8 per hour. Rosie's charges a \$20 fee plus \$10 per hour.

Independent variable (x): ______ Dependent variable (y): _____

System of equations:

Graph:





- a. When does it make more sense to rent a scooter from Rosie's? How do you know?
- b. When does it make more sense to rent a scooter from Sam's? How do you know?
- c. Is there ever a time where it wouldn't matter which store to choose? Explain.
- d. If you were renting a scooter from Rosie's, how much would you pay if you were planning on renting for 7 hours? Show your work.

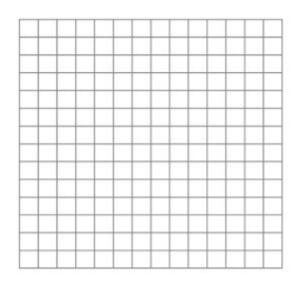
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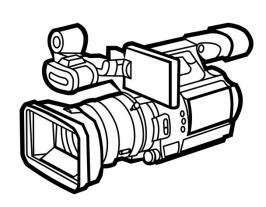
3. You need to rent a video camera for your school project. Murphy's Camera charges a \$30 rental fee plus \$35 per day. Allied Rental charges a \$45 rental fee plus \$30 per day. Which company should you choose?.

Independent variable (x): ______ Dependent variable (y): _____

System of equations:

Graph:





- a. When does it make more sense to rent a camera from Murphy's? How do you know?
- b. When does it make more sense to rent a camera from Allied Rental? How do you know?
- c. Is there ever a time where it wouldn't matter which store to choose? Explain what this means in the context of a "system of equations."
- d. If you were renting a camera for 3 days, how much money would you pay for each store? Show all work.

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