Tic-Tac-Toe: Linear Equation Word Problems

Choose three word problems from the tic-tac-toe board below. The three that you choose must be in the same row, column or diagonal. **SHOW ALL WORK** on the back.

1. A plumber charges $25 for a service call plus $50 per hour of service. • Write an equation in slope-intercept form for the cost, *C,* after *h* hours of service. • What will be the total cost for 8 hours of work? • 10 hours of work?	2. A video rental store charges a $20 membership fee and $2.50 for each video rented. • Write a linear equation (y = mx + b) to model this situation. • If 15 videos are rented, what is the revenue? • If a new member paid the store $67.50 in the last 3 months, how many videos were rented?	3. An attorney charges a fixed fee on $250 for an initial meeting and $150 per hour for all hours worked after that. • Write an equation in slope-intercept form. • Find the charge for 26 hours of work.
4. You are visiting Baltimore, MD and a taxi company charges a flat fee of $3.00 for using the taxi and $0.75 per mile. • Write an equation that you could use to find the cost of the taxi ride in Baltimore, MD. Let x represent the number of miles and y represent the total cost. • How much would a taxi ride for 8 miles cost? • If a taxi ride cost $15, how many miles did the taxi travel?	5. Rufus collected 100 pounds of aluminum cans to recycle. He plans to collect an additional 25 pounds each week. • Write an equation for the total pounds, *P,* of aluminum cans after *w* weeks. • What does the slope and y-intercept represent? • How long will it take Rufus to collect 400 pounds of cans?	6. Suppose that the water level of a river is 34 feet and that it is **receding** at a rate of 0.5 foot per day. • Write an equation for the water level, *L,* after *d* days. • In how many days will the water level be 26 feet?
7. A canoe rental service charges a $20 transportation fee and $30 dollars an hour to rent a canoe. • Write and graph an equation representing the cost, *y,* of renting a canoe for *x* hours. • What is the cost of renting the canoe for 6 hours?	8. A water tank already contains 55 gallons of water when Baxter begins to fill it. Water flows into the tank at a rate of 8 gallons per minute. • Write a linear equation to model this situation. • Find the volume of water in the tank 25 minutes after Baxter begins filling the tank.	9. For babysitting, Nicole charges a flat fee of $3, plus $5 per hour. • Write an equation for the cost, *C,* after *h* hours of babysitting. • What do you think the slope and the y-intercept represent? • How much money will she make if she baby-sits 5 hours?