

63. **TAKS REASONING** You receive a \$30 gift card to a shop that sells fruit smoothies for \$3. If you graph an equation of the line that represents the money y remaining on the card after you buy x smoothies, what will the y -intercept be? Will the line rise or fall from left to right? *Explain.*
64. **MULTI-STEP PROBLEM** You and a friend kayak 1800 yards down a river. You drift with the current partway at 30 yards per minute and paddle partway at 90 yards per minute. The trip is modeled by $30x + 90y = 1800$ where x is the drifting time and y is the paddling time (both in minutes).



- a. Graph the equation, and determine a reasonable domain and range. What do the x - and y -intercepts represent?
- b. If you paddle for 5 minutes, what is the total trip time?
- c. If you paddle and drift equal amounts of time, what is the total trip time?
65. **VOLUNTEERING** You participate in a 14 mile run/walk for charity. You run partway at 6 miles per hour and walk partway at 3.5 miles per hour. A model for this situation is $6r + 3.5w = 14$ where r is the time you run and w is the time you walk (both in hours). Graph the equation. Give three possible combinations of running and walking times.
66. **TICKETS** An honor society has \$150 to buy science museum and art museum tickets for student awards. The numbers of tickets that can be bought are given by $5s + 7a = 150$ where s is the number of science museum tickets (at \$5 each) and a is the number of art museum tickets (at \$7 each). Graph the equation. Give two possible combinations of tickets that use all \$150.
67. **MULTIPLE REPRESENTATIONS** A hot air balloon is initially 200 feet above the ground. The burners are then turned on, causing the balloon to ascend at a rate of 150 feet per minute.
- a. **Making a Table** Make a table showing the height h (in feet) of the balloon t minutes after the burners are turned on where $0 \leq t \leq 5$.
- b. **Drawing a Graph** Plot the points from the table in part (a). Draw a line through the points for the domain $0 \leq t \leq 5$.
- c. **Writing an Equation** The balloon's height is its initial height plus the product of the ascent rate and time. Write an equation representing this.



68. **TAKS REASONING** You and a friend are each typing your research papers on computers. The function $y = 1400 - 50x$ models the number y of words you have left to type after x minutes. For your friend, $y = 1200 - 50x$ models the number y of words left to type after x minutes.
- a. Graph the two equations in the same coordinate plane. *Describe* how the graphs are related geometrically.
- b. What do the x -intercepts, y -intercepts, and slopes represent?
- c. Who will finish first? *Explain.*