Name_____

6.3 Linear Functions Practice

Concept #7 & #8

1. **Coffee** The table shows the cost y (in dollars) of x fluid ounces of brewed coffee.

Fluid Ounces, *x*	0	8	16	24
Cost, *y*	0	0.5	1	1.5

a. Write a linear function that relates the cost of the coffee to the fluid ounces brewed.

b. Interpret the slope.

c. Use your equation to find the cost of a 32 oz. coffee.

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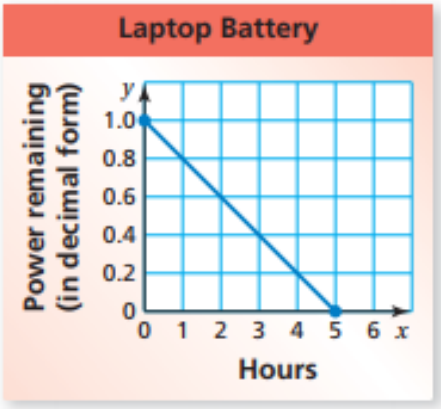
2. **BATTERY** The graph shows the percent y (in decimal form) of battery power remaining x hours after you turn out a laptop computer.

a. Write a linear function that relates y to x.

b. Interpret the slope.

c. Interpret the x-intercept.

d. Interpret the y-intercept.



e. After how many hours is the battery power at 75%? Use your equation. Show work.

3. **RACE** You and a friend race each other. You give your friend a 50-foot head start. The distance y (in feet) your friend runs after x seconds is represented by the linear function $y = 14x + 50$. The table below shows the distances you ran.

Time (seconds), x	2	4	6	8
Distance (feet), y	38	76	114	152

a. Who runs at a faster rate? What is that rate? Explain.

b. Write a linear function that relates your distance to the number of seconds.

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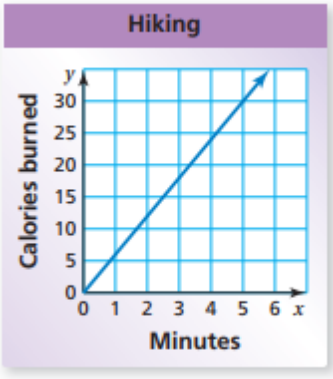
4. **CALORIES** The number of calories burned y after x minutes of kayaking is represented by the linear function $y = 4.5x$. The graph below shows the calories burned by hiking.

a. Which activity burns more calories per minute? Explain.



b. Write a linear function that represents the hiking scenario represented in the graph.

c. How many more calories are burned by doing the activity in part (a) than the other activity for 45 minutes? Explain and/or show your work.