Directions: Answer the following question(s).

1 **An incomplete table is shown below.**

x	*y*
2	7
6	9
8	6

Fill in the empty cells in the table so that the table of values does *not* represent a function.

Explain your reasoning.

2 **Donnie is considering two different DVD rental stores, both of which have a one–time membership fee and a fee per rented DVD.**

The cost for renting DVDs at the first store is shown below:

Number of DVDs rented	Cost ($)
1	5.50
2	7.00
3	8.50

The cost for renting DVDs at the second store is modeled by the linear function $C = 5 + 2d$, where d is the number of DVDs rented and C is the cost.

Compare the rates of change for each function and explain what this means in terms of the context.

3 **Tamara was asked to write an example of a linear functional relationship. She wrote this example:**

- **My baby–sitting service charges an initial $5.00 fee plus an additional $6.50 per hour.**

Complete the table below to create an example of the baby–sitting rate.

Total Hours	Cost
1	
2	
3	
4	

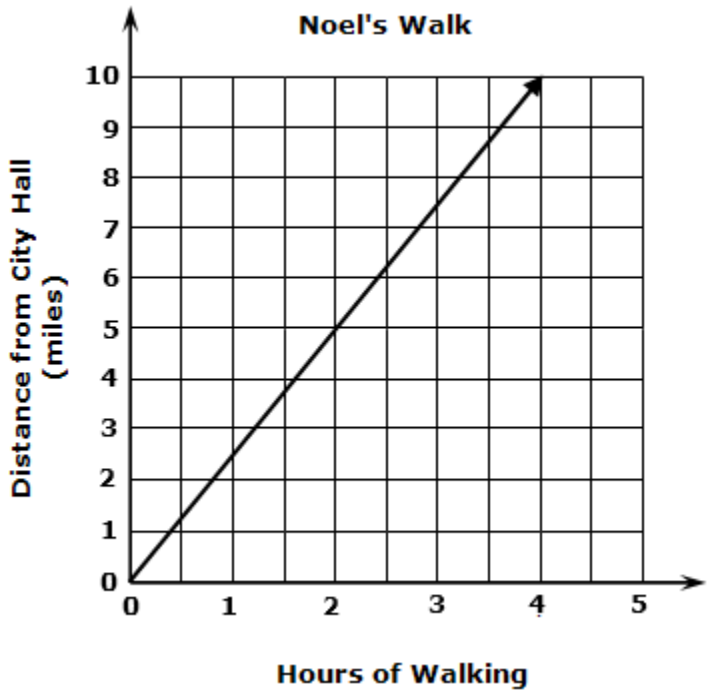
State whether Tamara's example represents a linear functional relationship. Explain your reasoning.

Directions: Answer the following question(s).

4 **Hiram and Noel are walking for exercise. Both of their distances are measured from City Hall.**

The distance, in miles, that Hiram is from City Hall is represented by the equation $d = 1.5 + 2.75h$, where d represents distance and h represents hours of walking.

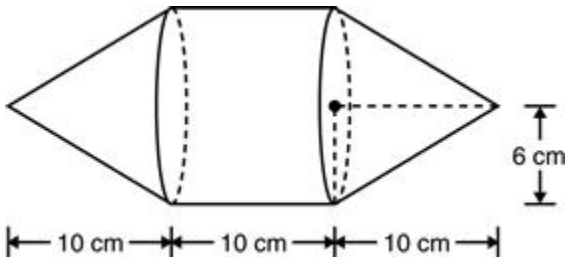
The distance, in miles, that Noel is from City Hall is represented by the graph below.



Determine which person is walking at the faster rate, and by how much.

Explain your reasoning.

5 **The solid shown is a cylinder capped at both ends with identical cones. The cylinder and cones have the same radius length of 6 centimeters.**



What is the volume of the solid in cubic centimeters if 3.14 is used for π?

Directions: Answer the following question(s).

6 **A spherical tank has a radius of 6 feet. Frankie filled the tank with gasoline at a rate of 23 cubic feet per minute. At this rate, how long will it take Frankie to completely fill the tank without it overflowing?**

Round your answer to the nearest minute.

_____ **minutes**