**1):** The graph shows the distance between Carlos and his workplace during his morning commute.

A) How fast is Carlos walking?

B) Find the y-intercept. What does it mean?

C) How long does it take him to arrive to work?

**2):** Jake has a swimming pool that needs to be drained at a maximum rate of 120 gallons per hour. The table shows the function relating the volume of water in a pool and the time in hours that the pool has been draining.

A) Complete the table. GRAPH:

|  |  |
| --- | --- |
| **Time, x (hr)** | **Volume, y (gal)** |
| 0 | 800 |
| 1 | 680 |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |

B) How long does it take for the pool to empty completely?

C) Luke, Jake’s friend, empties his pool also. The function that relates the time passed and the gallons remaining in Luke’s pool is given by :

**y = 900 – 140 x.**

Is Luke or Jake’s pool emptying at a faster rate? How do you know?

D) How much more water does Luke have than Jake in his pool at the beginning?

E) At what point will both men have the same volume of water in their pool?

