Name:_____

QUESTIONS 3 AND 4 ON BACK
For each question (except multiple choice questions), your solution must show work/calculations and display/explain your reasoning.

1. Consider the following tables. For each part below, circle the letters of any of the tables that fit the description.

A		B		C		D	
x	**y**	**x**	**y**	**x**	**y**	**x**	**y**
–4	–2	0	–3	–1	–5	–3	–5
2	3	-3	3	1	1	1	2
4	6	-3	4	6	5	6	2
8	7	8	7	9	7	8	9
12	12	11	15	1	2	15	14

a) functions from x to y: A   B   C   D

b) *one to one* functions from x to y: A   B   C   D

c) functions of y to x: A   B   C   D

2) The *velocity vs. time* graphs for two particles A and B traveling in straight lines in the same direction are shown.

a) At $t = 3$ s, which particle has the *larger speed*?

     A   **B**

    same   **not enough**
    speed   **information**

v (m/s)
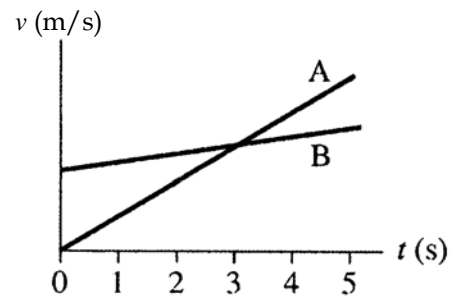
b) At $t = 3$ s, which particle has the *larger acceleration*?

    A   **B**   **same acceleration**   **not enough information**

c) Between 0 s and 3 s, which particle *traveled the largest distance*?

    A   **B**   **same distance**   **not enough information**

d) At $t = 3$ s, which particle is *further ahead*?

    A   **B**   **same location**   **not enough information**

3) An object moving in a straight line with constant acceleration was determined to be moving at 8 m/s at 4 s and at 2 m/s at 14 s, as shown on the graph.
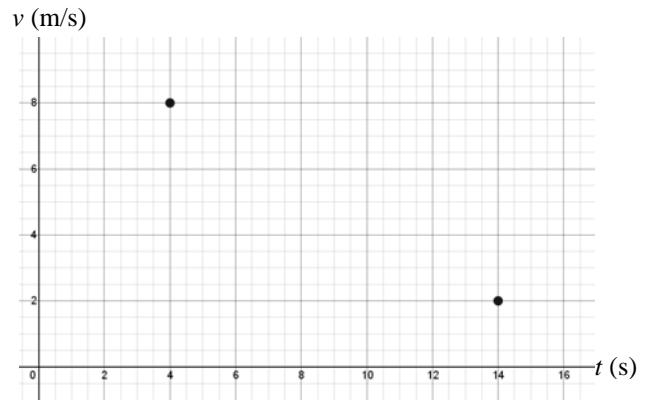
a) Determine the object's acceleration.

b) Determine the object's displacement between 4 s and 14 s.

c) Assuming the object was always moving with the same constant acceleration, determine its speed at 0 s.

v (m/s)

4) Give a piecewise function definition for the graphs shown. In other words, write a formula for the piecewise function shown graphed.