

Answers

Part 1: Exploring the Code

1. a) 10
 - b) At (0, 0), which is the centre of the grid; I know because I can watch it move and also because the code has an instruction that tells the turtle to go back to x:0 y:0 with each repeat.
 - c) Quadrant 1
 - d) The path the turtle travels.
 - e) They all slant the same way: up to the right.
2. a) A translation moves a point in a straight line to another point
 - b) Right; this is controlled by the x-coordinate that is selected, which is always positive.
 - c) Up; this is controlled by the y-coordinate that is selected, which is always positive.

Part 2: Altering the Repeat and the Timing

Sample answers:

1. I think only 5 turtles will be translated; my prediction was correct.
2. I changed the repeat to 15 because I think that the program will now stamp 15 turtles; I was correct.
3. I think the turtles will move a lot faster; I was correct.

Answers (cont'd)

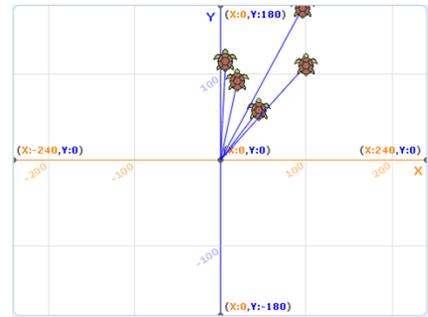
Part 3: Altering the x- and y-coordinates within Quadrant 1

Sample answers:

1. Because that is the greatest number along the x-axis of this grid.

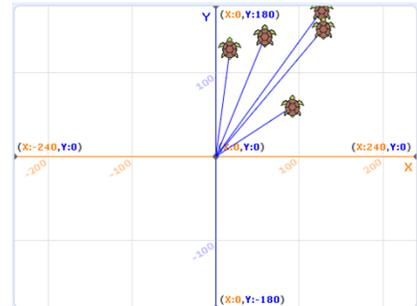
2. b) Only 5 turtles are translated; they are all in the squares in Quadrant 1 that are just to the right of the y-axis.

Sample output stage:



d) I think some of the turtles will move to points in Quadrant 1 that are farther from the y-axis but the x-coordinate of the points will be at most 150.

Sample output stage:



3. b) I think the turtles will move to points in Quadrant 1 that are in the squares just above the x-axis; the y-coordinate of the points will be at most 100 and x-coordinates will be at most 150.

Sample output stage:

