Answers

**Algebra**

**Unit 3 Line Master 1g**

**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)

**Algebra**

**Unit 3 Line Master 1h**

**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.

Chart

Description automatically generated2. 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:

Chart, scatter chart

Description automatically generated 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:

Chart, scatter chart

Description automatically generated3. 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: