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.

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: