

Answers

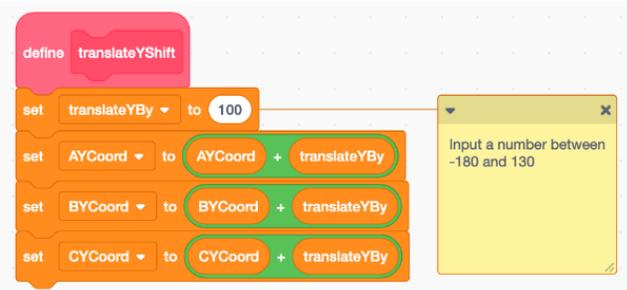
Part 1

8. The triangle moved 100 units to the right.

9. To move the triangle 100 units to the left, set ***translateXBy*** to **-100**.

Part 2

Here is what the new ***translateYShift*** subprogram should look like:



The revised main program is shown on Master 6.

If students shift the original triangle as shown on Master 6, the stage will look like this:



If students choose to shift the second triangle instead and use a pink pen colour for the vertical translation, the stage will look like this:



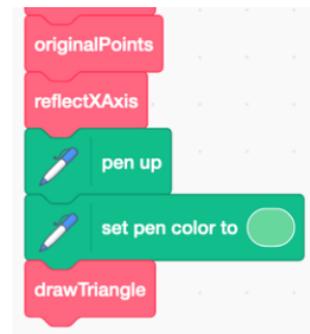
Answers (cont'd)

Additional Challenges

When you reflect in the x -axis, the x -coordinates of the image stay the same but the y -coordinates have the opposite sign. As shown on Master 6, the **reflectXAxis** subprogram should look like this:



These 5 blocks should be added to the end of the main program (the pen colour choice may vary):



The output stage will look something like this:



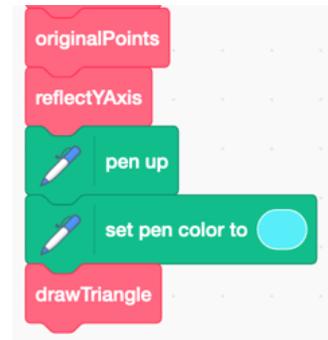
When you reflect in the y -axis, the y -coordinates of the image stay the same but the x -coordinates have the opposite sign.

The **reflectYAxis** subprogram should look like this:

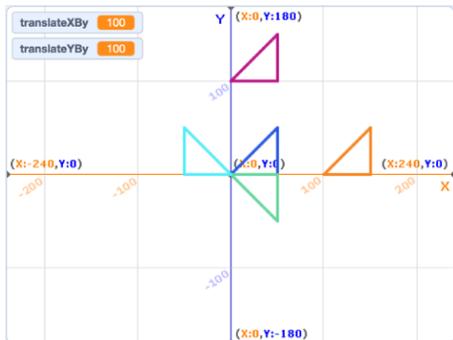


Answers (cont'd)

These 5 blocks should be added to the end of the main program (the pen colour choice may vary):



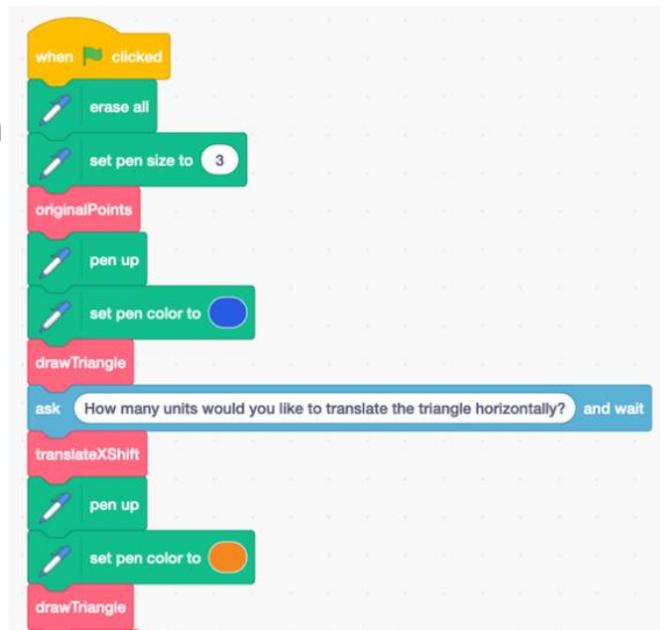
The output stage will look something like this:



The answers shown for the final challenge assume that the challenges are completed in order, which is not essential. Students could do this last challenge without doing any of the previous challenges.

The **ask and wait** sensing block should be added to the main program before the first translated triangle is drawn.

The **translateXBy** variable should be set to equal the user's **answer**.



Algebra
Unit 3 Line Master 6j

Answers (cont'd)

```

define translateXShift
  set translateXBy to answer
  set AXCoord to AXCoord + translateXBy
  set BXCoord to BXCoord + translateXBy
  set CXCoord to CXCoord + translateXBy
  
```

If all challenges are completed with the triangle position being reset each time and the user enters 150 for the horizontal translation, the output stage should look something like this:

