Drawing Geometric Shapes

1. Open a new project. Remove the cat sprite. From the *Animals* folder add a sprite, such as a mouse or insect. Do not use a sprite with a script, such as Gravity Cat or Crawling Ant.

2. Place the sprite in the lower, left quadrant of the stage.

3. Add the Control hat script, *when [green flag] clicked* to the Scripts area.

4. In the Pen group, drag *set pen color to…* the Scripts area and attach to the *Control* script.

5. Click in the colored square. The pointer changes to a dropper. Click on the desired color.

6. To change the thickness of the pen, drag *set pen size to…* and change the value to 2.

7. Add the Pen script, *pen down*.

8. Move the sprite 60 pixels to the right using the Motion script, *change x by 60.*

9. Next, rotate the sprite 90 degrees. You may use the *turn [counterclockwise] 90 degrees* or *point in direction 0*.

10. Next, change the pen color by 25. This script is located in the Pen group.

11. Again, change the pen size. Drag *set pen size to…* in the Scripts area. In the Operators group are Boolean values that may be used to set or compare values. From the Operators group, drag *pick random 1 to 10* into the block for pen size. Change the script to pick a random number between 1 and 8.

12. Move the sprite 60 pixels up using the Motion script, *change y by 60.*

13. Now, you need to rotate the sprite. If you used *point in direction* before, use *turn [counterclockwise] 90 degrees*.

14. Next, change the pen color to a random color. In the Pen group, drag *set pen color to…* into the scripts area. From the Operators group, drag *pick random 1 to 10* in the value box for *set pen color*.

15. Change the range to indicate 1 to 254.

16. Finish drawing the square changing the pen color on each side.

17. When the square is finished, pick the pen up and move the sprite to x = 150, y = 100.

Using these types of scripts, draw different geometric shapes, starting with the triangle, then continuing with the rectangle, pentagon, hexagon, etc. Think carefully about the number of degrees you will need to rotate the sprite.

Try to draw a figure, such as a house, without retracing your pen marks. You will need to use *pen up* and *pen down.*

```
when  clicked
set pen color to
set pen size to 2
pen down
change x by 60
point in direction 0
change pen color by 25
set pen size to pick random 1 to 8
change y by 60
turn  90 degrees
set pen color to pick random 1 to 254
change x by -60
point in direction 180
set pen color to pick random 1 to 254
change y by -60
pen up
go to x: 150 y: 100
```