CMSC 113: Computer Science I
Getting Attributes of Shapes

You will often need to get the current size or location of shapes you have already created. Here is how.

To get the coordinates of a shape's hotspot:
Say you have a shape named `fido`. `fido.getX()` will be the *x*-coordinate of the shape's hotspot and `fido.getY()` will be the *y*-coordinate of the shape's hotspot. So, if the shape is a rectangle, oval, or image, these coordinates will be at the shape's upper-left corner; if the shape is a label, these coordinates will be at the shape's lower-left corner; if the shape is a line, these coordinates will be at the shape's start point; and if the shape is a compound, these coordinates will be at the shape's defined hotspot.

For example, say you want `spot` to move to the location where `fido` currently is. Use this code:

```
spot.setLocation(fido.getX(), fido.getY());
```

This uses `fido`'s current coordinates as the new coordinates of `spot`.

To get the coordinates of the endpoint of a line:
The coordinates of the endpoint of a line `stick` are `stick.getEndPoint().getX()` and `stick.getEndPoint().getY()`. These will be the 3rd and 4th numbers you originally put into `stick = new GLine(…);`.

To get the size of a shape:
To get `fido`'s width and height, use `fido.getWidth()` and `fido.getHeight()`. This works the same for any shape.

For example, say you want `fido` to grow by 5 pixels in both directions. Use this code:

```
fido.setSize(fido.getWidth() + 5, fido.getHeight() + 5);
```

This code sets `fido` to have a width 5 greater than its old width and a height 5 greater than its old height.