

Class Triangle

1/2

```
1  /**
2   * A Triangle is a Shape that maintains information about its side
3   * length. A Triangle knows how to return and set its side length, and
4   * calculate and return its area and perimeter.
5   *
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8   * @teacher    Coglianese
9   * @period    2
10  * @version    23 February 2018
11  **/
12  public class Triangle extends Shape
13  {
14      private double mySide;
15      /**
16       * Constructs an equilateral triangle with initial side length
17       * specified by x.
18       * @param x    initial side length
19       */
20      public Triangle(double x)
21      {
22          mySide = x;
23      }
24
25      /**
26       * Returns the triangle's side length
27       * @return    sideLength
28       */
29      public double getSide()
30      {
31          return mySide;
32      }
33
34      /**
35       * Sets the side length to the input number.
36       * @param x    assigns x to side lengths
37       */
38      public void setSide(double x)
39      {
40          mySide = x;
41      }
42
43      /**
44       * Calculates and returns the equilateral triangle's area.
45       * @return    area
46       */
47      public double findArea()
48      {
49          return (Math.sqrt(3)/2)*Math.pow(mySide, 2.0);
```

```
50     }
51
52     /**
53      * Calculates and returns the equilateral triangle's perimeter.
54      * @return    perimeter
55      */
56     public double findPerimeter()
57     {
58         return 3*mySide;
59     }
60 }
```