IT 168 Fall 2015

50 points

**Program 1**

To help with advertising, three companies are going to pay farmers throughout the country to paint their logo on their barns. The problem is to determine, for a given-size barn, how much paint of each color is needed. From experience, the number of quarts of paint is equal to the area to be painted (in square feet) divided by 125.

Formulas you will need to use:

|  |  |
| --- | --- |
| Area of a circle | π x radius2 |
| Area of a rhombus |  |
| Area of a square | side2 |

Use a constant to set π to 3.14 in your program.

Logo 1 – Target



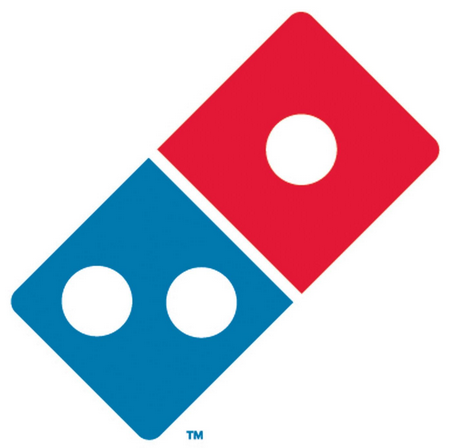
The inside circle and outside ring are red. The inner ring is white. Ask the user the radius in feet of the three circles and determine the number of quarts of red paint and of white paint that are needed.

Logo 2 – Mitsubishi



This logo is made of three red rhombuses of the same size. Ask the user for the size in feet of the smaller diagonal and the larger diagonal and determine the amount of red paint that is required.

Logo 3 – Domino’s



Even though there are rounded corners, assume that each die is a square. Ask the user for the size in feet of the side of the square (both are the same size). Then ask the user for the radius of the circles (all are the same). The dice on the left requires blue paint and the one on the right is red. The dots require white paint. Determine the amount of each color of paint needed to paint the logo.

***Sample Output***

*Numbers in bold are user input.*

Target Logo

Enter the radius in feet of the smallest circle: **10**

Enter the radius in feet of the middle circle: **20**

Enter the radius in feet of the large circle: **30**

The Target logo requires:

15.072 quarts of red paint to cover 1884.0 square feet and

7.536 quarts of white paint to cover 942.0 square feet.

Mitsubishi Logo

Enter the smaller diagonal in feet of one rhombus: **20**

Enter the larger diagonal in feet of one rhombus: **30**

The Mitsubishi logo requires:

2.4 quarts of red paint to cover 300.0 square feet.

The Domino's Logo

Enter the side of the square in feet for one dice: **40**

Enter the radius of the circle in feet: **10**

The Domino's logo requires:

7.776 of blue paint to cover 972.0 square feet,

10.288 of red paint to cover 1286.0 square feet, and

7.536 of white paint to cover 942.0 square feet.

***Requirements***

* Create two more sets of test data and record on the provided document. (Program 1 Test Data.docx)
* Write your program in a class called LogoPaintCalculator.java that has a main method. All values should be declared as double values. Pi needs to be declared as a constant equal to 3.14.
* Prompts and output should be in the form given above. Input should be entered by the user from the keyboard. Output should be displayed on the console.

***To Be Submitted***

Zip the files LogoPaintCalculator.java and Program 1 Test Data.docx and submit in ReggieNet > Assignments > Program 1.