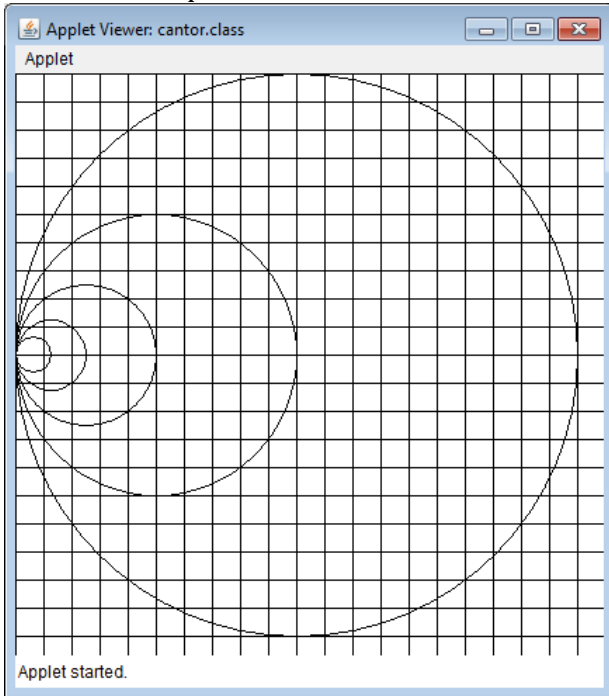


# Cantor's Cheese

Name: \_\_\_\_\_

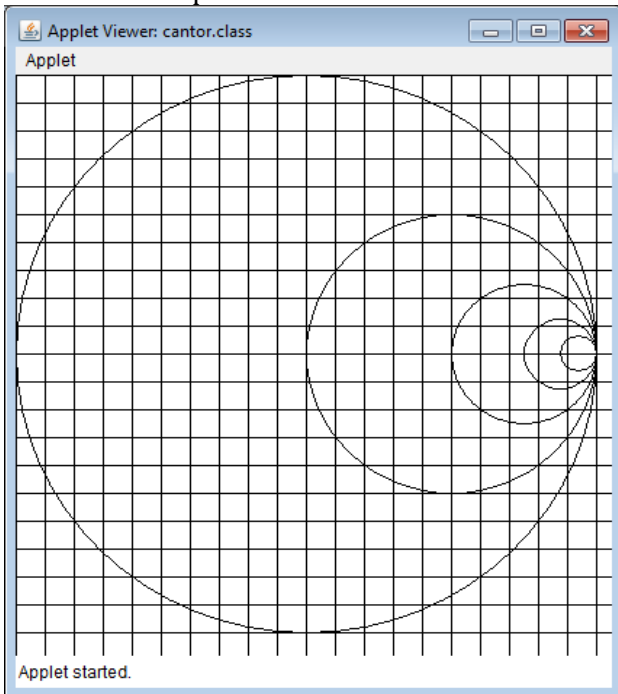
1. Consider this piece of Cantor's cheese.



(a) Draw the self-similar section:



2. Consider this piece of Cantor's cheese.



(a) Draw the self-similar section:



(b) For the outer 3 circles, record the following:

[Each box is 20 pixels]

	0 [outer]	1	2
X			
Y			
Width			
Height			

(c) Fill in the blanks to draw the above picture.

```
import java.applet.*; import java.awt.*;
public class cantor extends Applet {
    public void paint (Graphics g) {
        //starting oval
        cheese (____, _____, _____);
    }
    public void cheese (int x, int y, int r) {
        Graphics g = getGraphics ();
        if (r < _____)
            return;
        else {
            //draw big
            g.drawOval (x, y, r, r);
            //change to next level
            cheese (x + _____, y + _____, _____);
        }
    }
}
```

(b) For the outer 3 circles, record the following:

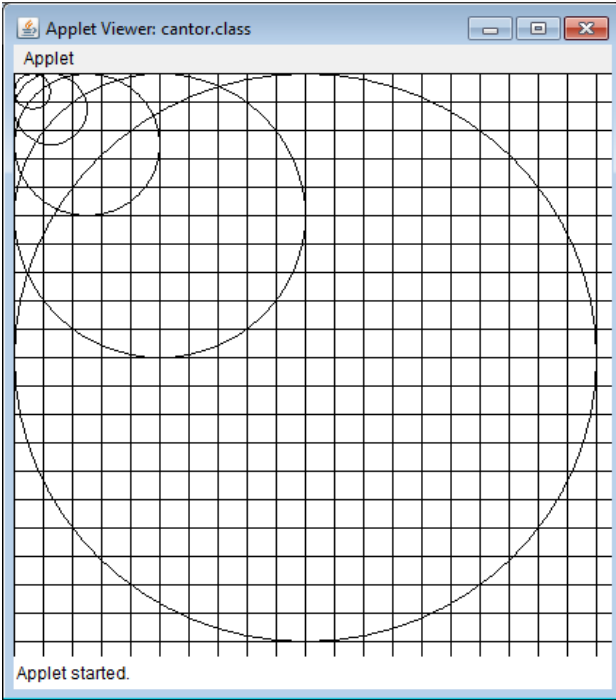
[Each box is 20 pixels]

	0 [outer]	1	2
X			
Y			
Width			
Height			

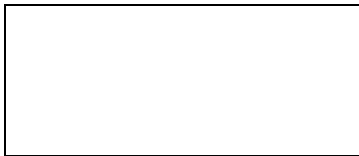
(c) Fill in the blanks to draw the above picture.

```
import java.applet.*; import java.awt.*;
public class cantor extends Applet {
    public void paint (Graphics g) {
        //starting oval
        cheese (____, _____, _____);
    }
    public void cheese (int x, int y, int r) {
        Graphics g = getGraphics ();
        if (r < _____)
            return;
        else {
            //draw big
            g.drawOval (x, y, r, r);
            //change to next level
            cheese (x + _____, y + _____, _____);
        }
    }
}
```

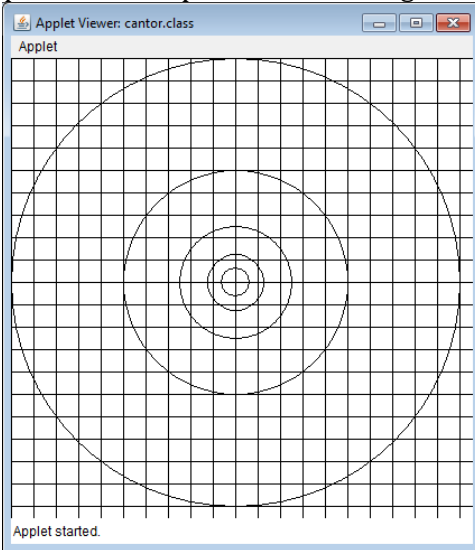
3. Consider this variation of Cantor's cheese.



(a) Draw the self-similar section:



4. Adapt the code to print the following:



```
public void notchese (int x, int y, int r) {
    Graphics g = getGraphics ();
    if (r < _____)
        return;
    else {
        //draw big
        g.drawOval (x, y, r, r);
        //change to next level
        chese (x + _____, y + _____, _____);
    }
}
```

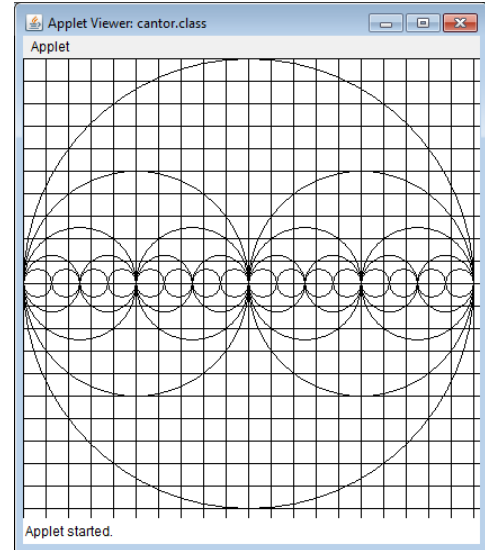
(b) For the outer 3 circles, record the following:

[Each box is 20 pixels]

	0 [outer]	1	2
X			
Y			
Width			
Height			

(c) Fill in the blanks to draw the above picture.

```
import java.applet.*; import java.awt.*;
public class cantor extends Applet {
    public void paint (Graphics g) {
        //starting oval
        chese (_____, _____, _____);
    }
    public void chese (int x, int y, int r) {
        Graphics g = getGraphics ();
        if (r < _____)
            return;
        else {
            //draw big
            g.drawOval (x, y, r, r);
            //change to next level
            chese (x + _____, y + _____, _____);
        }
    }
}
```



```
public void cantorchese (int x, int y, int r) {
    Graphics g = getGraphics ();
    if (r < _____)
        return;
    else {
        //draw big
        g.drawOval (x, y, r, r);
        //change to next level
        chese (x + _____, y + _____, _____);
        chese (x + _____, y + _____, _____);
    }
}
```