

# How to Draw Circles in Plots in R?

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## RECOMMENDED CITATION

stats writer (2025). *How to Draw Circles in Plots in R?*. PSYCHOLOGICAL SCALES.  
Retrieved from <https://scales.arabpsychology.com/?p=101729>

In R, circles can be drawn on a plot by using the function 'symbols' and specifying the type of symbol as 'circle'. This can be done by supplying the x and y coordinates of the center of the circle along with the radius of the circle, as well as any other desired graphical parameters such as colour and size. The 'plot' function can then be used to draw the circle on the plot.

You can use the following methods to draw a circle in a plot in R:

### Method 1: Draw Circle Using Base R

#### library(plotrix)

```
#create scatter plot
```

```
plot(x, y)
```

```
#add circle at specific (x, y) coordinates with specific radius
```

```
draw.circle(x=3, y=8, radius=.5)
```

### Method 2: Draw Circle Using ggplot2

#### library(ggplot2)

#### library(ggforce)

```
#create scatter plot with circle at specific location with specific radius
```

```
ggplot(data = df, aes(x, y)) +
```

```
geom_point() +
```

```
geom_circle(aes(x0=3, y0=8, r=1), inherit.aes=FALSE) +
```

```
coord_fixed()
```

The following examples shows how to use each method in practice.

### Example 1: Draw Circle Using Base R

To draw a circle on a plot in base R, you need to first install and load the **plotrix** package:

```
install.packages('plotrix')
```

```
library(plotrix)
```

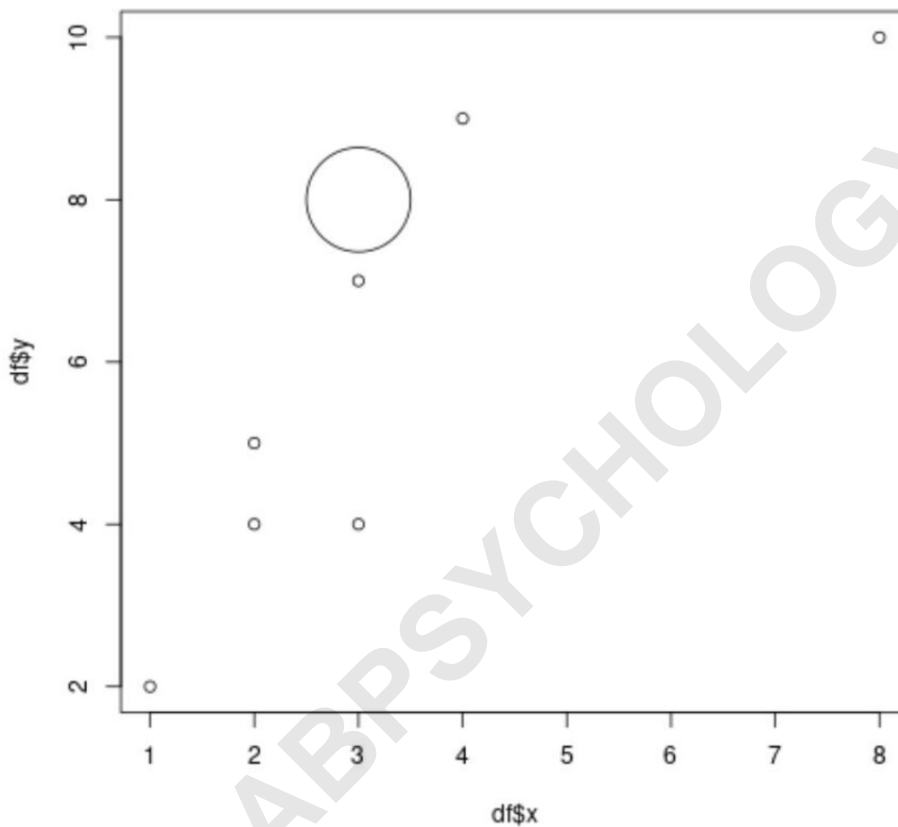
Next, we can use the **draw.circle()** function from the **plotrix** package to add a circle to a scatter plot in base R:

```
#create data frame
```

```
df <- data.frame(x=c(1, 2, 2, 3, 3, 4, 8),  
y=c(2, 4, 5, 4, 7, 9, 10))
```

```
#create scatter plot  
plot(df$x, df$y)
```

```
#add circle  
draw.circle(x=3, y=8, radius=.5)
```



You can also use the **draw.circle()** function multiple times to plot multiple circles on the same plot:

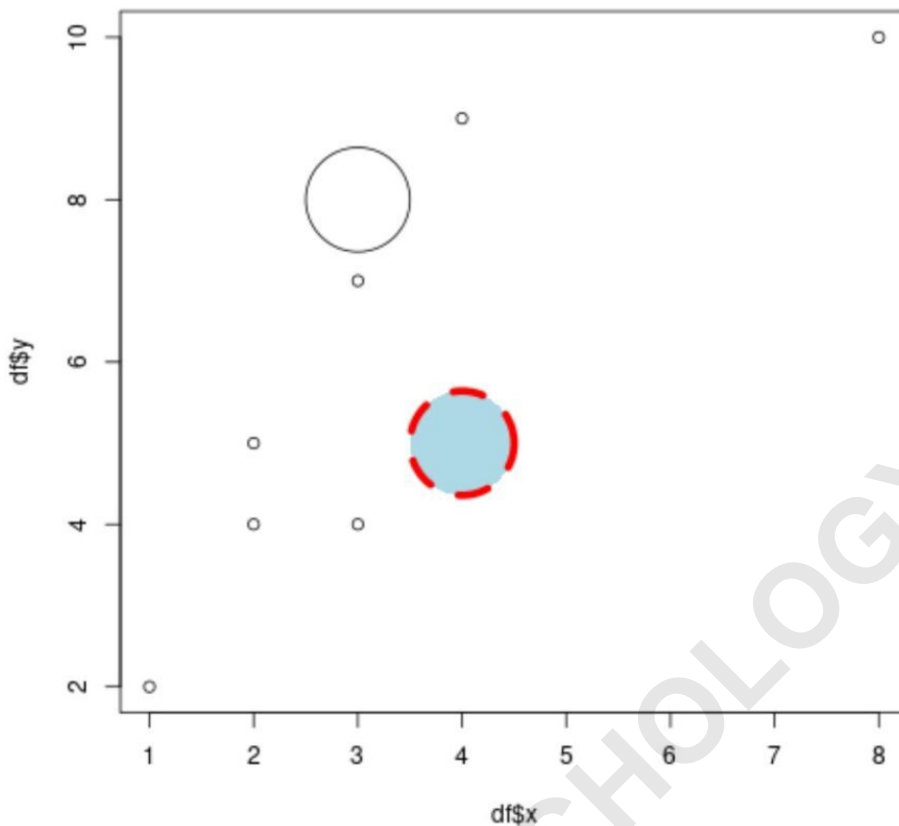
```
#create data frame
```

```
df <- data.frame(x=c(1, 2, 2, 3, 3, 4, 8),  
y=c(2, 4, 5, 4, 7, 9, 10))
```

```
#create scatter plot  
plot(df$x, df$y)
```

```
#add multiple circles to plot  
draw.circle(x=3, y=8, radius=.5)
```

```
draw.circle(x=4, y=5, radius=.5, border='red', col='lightblue', lwd=5, lty='dashed')
```



Notice that multiple circles have been added to the plot at the (x, y) coordinates that we specified.

## Example 2: Draw Circle Using ggplot2

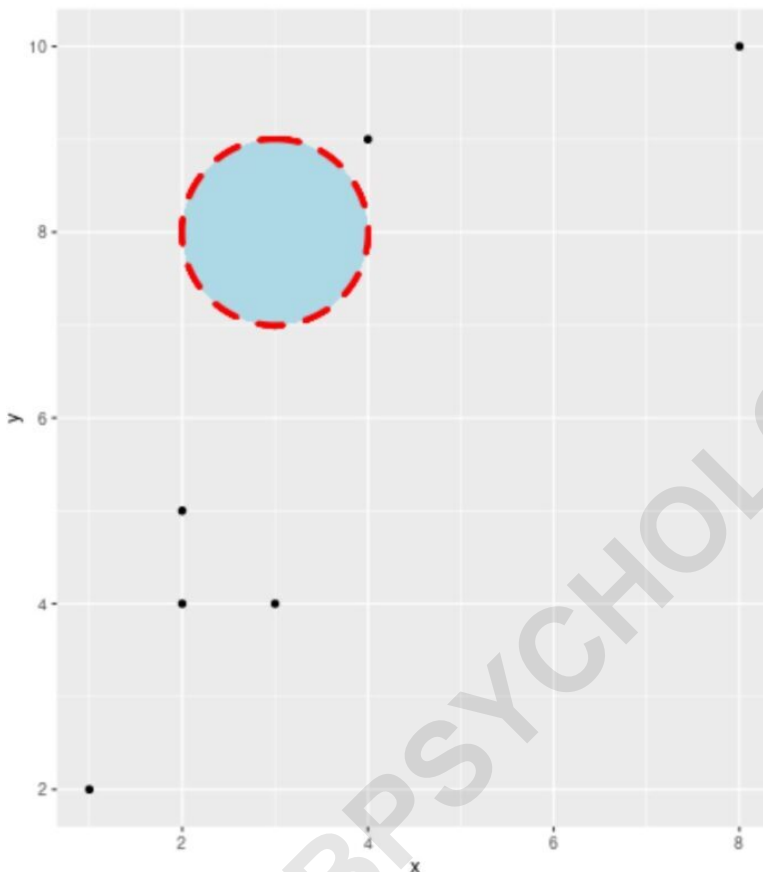
```
install.packages('ggplot2')
install.packages('ggforce')
library(ggplot2)
library(ggforce)
```

Next, we can use the **geom\_circle()** function from the **ggforce** package to add a circle to a scatter plot in ggplot2:

```
#create data frame
df <- data.frame(x=c(1, 2, 2, 3, 3, 4, 8),
y=c(2, 4, 5, 4, 7, 9, 10))
```

```
#create scatter plot with circle
```

```
ggplot(data = df, aes(x, y)) +  
  geom_point() +  
  geom_circle(aes(x0=3, y0=8, r=1), linetype='dashed', color='red',  
  fill='lightblue', lwd=1.5, inherit.aes=FALSE) +  
  coord_fixed()
```



The circle is placed in the exact (x, y) coordinates that we specified.

**Note:** If you don't use the `coord_fixed()` argument, the circle may appear as an ellipse instead.