

Solution to Quiz 3

Question 1

Q: You want to customize the color scale, theme elements, and include a mathematical equation in the title of a faceted scatterplot. Is it necessary to create the plot using grid graphics rather than ggplot2?

A: No, you do not need to code this plot in grid graphics (although you could).

Question 2

Q: Which of the following types of objects are created with grid graphics, either directly or using a package built on grid graphics?

A:

- (1) A grob object;
- (2) A ggplot object;
- (3) A map created with ggmap.

Question 3

Q: How can you customize the aesthetics of a grob, like color and line style, when creating the grob?

A: Use key-value pairs within a call to the `gpar` function as the input to the `gp` parameter of the grob family function. For example:

```
circleGrob(x = 0.5, y = 0.5, r = 0.5,  
           gp = gpar(col = "grey"))
```

Question 4

TRUE or FALSE: You use viewports to **create** new graphical elements when using grid graphics.

A: FALSE

Question 5

Q: Which of the following are graphical elements can you create in an R plot using one of the grob family of functions from the `grid` package?

A:

- (1) x- and y- axes;
- (2) Polygon;
- (3) Point;
- (4) Line;
- (5) Text.

Question 6

Q: What is the name of the plotting windows that you can move into and out of to customize plots using grid graphics?

A: Viewports

Question 7

Q: Which of the following tasks can be done using the `grid.arrange` function in the `gridExtra` package?

A:

- (1) Draw multiple ggplot objects to the current graphics device.
- (2) Draw multiple ggplot objects to the current graphics device.
- (3) Draw a single grob to the current graphics device.

Question 8

Q: Which of the following are possible units that can be used with grid graphics coordinate systems?

A:

- (1) “npc”
- (2) “native”
- (3) “cm”

Question 9

Q: Question 9 If you have to integrate base graphics and grid graphics output, what is the name of the package that can be used to do that?

A: `gridBase`

Question 10

Q: What graphics systems is `ggplot2` built on?

A: Grid graphics