Challenge 1 Answer Key

1. Create the following scatterplot using `plot()`. (*5 points*)

```
plot(NHANES$BMI~NHANES$Age, main = "BMI given Age")
```

2 Points: BMI first
2 Points: Age second
1 Point: Title
(take off 2 points if variables switched)

2. Create the following more decorated scatterplot using `plot()`. (*5 points*)

```
plot(NHANES$BMI~NHANES$Age, main = "BMI given Age",
    sub = "Subtitle: Values shown are from the NHANES Dataset",
    xlab = "Age", ylab = "BMI", col.lab = "blue", col.main = "violet")
points(NHANES$Age, NHANES$BMI, col = "red")
```

1 point: Same variables and title as last time
1 point: Subtitle
1 point: Axis labels
0.5 points: Axis labels blue
0.5 points: Title label violet
1 point: Points red
(take off 0.5 for any minor errors)

3. Create the following graph using `ggplot()`. (*10 points*)

```
ggplot(NHANES, aes(Age, BMI, color = Gender)) +
  facet_grid(.~Education) + geom_point() +
  ggtitle("BMI given Age faceted by Education, colored by Gender") +
  xlab("Age in Years") + ylab("Body Mass Index")
```

2 points: Variables in correct order
2 points: Color by Gender
2 points: Facet by Education
1 point: geom_point()
1 point: Title
1 point: X-axis label
1 point: Y-axis label
(take off 0.5 for any minor error)