Name:
Date:

# Quiz #6

```
> penguin_mod <- lm(bill_length_mm ~ bill_depth_mm, penguins)
> summary(penguin_mod)

Call:
lm(formula = bill_length_mm ~ bill_depth_mm, data = penguins)

Residuals:
     Min       1Q   Median       3Q      Max
-12.8949  -3.9042  -0.3772   3.6800  15.5798

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    55.0674     2.5160  21.887  < 2e-16 ***
bill_depth_mm  -0.6498     0.1457  -4.459 1.12e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 5.314 on 340 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.05525,   Adjusted R-squared:  0.05247
F-statistic: 19.88 on 1 and 340 DF,  p-value: 1.12e-05

> summary(penguin_mod)$sigma
[1] 5.314418
```

Using the model shown above, answer the following questions.

1. Approximately, what's the expected bill length of a penguin with a 20mm deep bill?

2. Approximately, in what range would you expect to find 67% of the observed bill lengths for penguins with 20mm deep bills?