1. Completed ANOVA table:

Source	**df**	**SS**	**MS**	**F**	**p-value**
Drugs	1	69.22	69.22	0.49	0.48
Dose	1	330.00	330.00	2.36	0.13
Interaction	1	31.33	31.33	0.22	0.64
Within	219	30648.81	139.95		
Total	223	31079.36			

Conclude that there is no significant evidence that the drop in systolic blood pressure differs for the two drugs (p-value=0.48). There is also no significant evidence that the drop in systolic blood pressure differs for the two doses (p-value=0.13). Finally, there is no significant evidence that there is an interaction between drug and dose (p-value=0.64).

2. 12.9

   (a) The slope and intercept of the regression line are

   $$b_1 = \frac{731.36}{2094.53} = 0.349;\ b_0 = \bar{y} - b_1\bar{x} = 103.99 - (0.349)(149.64) = 51.77$$

   The fitted regression line is $Y = 51.77 + 0.349X$.

   (b) As length increases by 1 mm, maximum jump increases by 0.349 cm, on average.

   (c) $s_Y = \sqrt{3218.97/(11-1)} = 17.9$ cm, $s_{Y|X} = \sqrt{2963.61/(11-2)} = 18.1$ cm.

   (d) Predictions of maximum jump based on the regression model tend to be off by 18.1 cm, on average. We could also say that the data points deviate above or below the regression line by 18.1 cm, on average. (Note that $s_{Y|X}$ is somewhat greater than s_Y, indicating that the regression model is not very useful - the relationship between X and Y is not very strong here.)

3. From R output:

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  51.7416    59.5828   0.868    0.408
length        0.3492     0.3965   0.881    0.401
Residual standard error: 18.15 on 9 degrees of freedom
Multiple R-Squared: 0.07933,    Adjusted R-squared: -0.02296
F-statistic: 0.7755 on 1 and 9 DF,  p-value: 0.4014
```

From this we have that the fitted regression line for these data is

$$jump = b_0 + b_1 length = 51.7416 + (0.3492) length,$$

where the units of jump and the intercept are mm, the units of length are cm, and the units of the slope are mm/cm.

4. Using R output to construct a 95% CI for the slope of the regression line:

$$b_1 \pm t\{se(b_1)\} \equiv 0.3492 \pm 2.262\{0.3965\} \equiv [-0.55, 1.25],$$

where $t(9)_{0.025}$=2.262.