1

1. Yes a line is appropriate because the residual plot shows no curved pattern
2. Slope = 233.517. On average when years since 1990 increases by one, the predicted number of commercial aircraft flying increases by about 233.517 planes.
3. y-int = 2939.93. When the year is 1990, the predicted amount of commercial aircraft flying is about 2939.93 planes.

d. 

e. Residual = Actual y – Predicted y 

2

1. On average, when hours of sun increase by 1, the predicted sales increase by about 1.518 units.
2. When there are 0 hours of sun, the predicted sales is about 0.305.
3. Since r = .81 is fairly close to 1, there is a fairly strong, positive, linear relationship between hours of sun and ice cream sales
4. About 65.61% of the variation in sales can be explained by the least squares regression of sales on hours of sun

e. 

f. 

3. 

4. The relationship between time and population is curved since the residual plot is curved.

6.

1. On average, as the width of the grass strip increases by 1 foot, the predicted amount of nitrogen removed from the runoff water will increase by about 3.6 parts per hundred.
2. No…the widths researched in this study were only from 5 to 15 feet. Since 0 to 30 feet contain numbers NOT in our data range, it would be extrapolation (for 0 – 5 and 15 – 30) so I would not be comfortable predicting in this range as we do not know if the linear pattern continues outside of the range 5 – 15 feet.