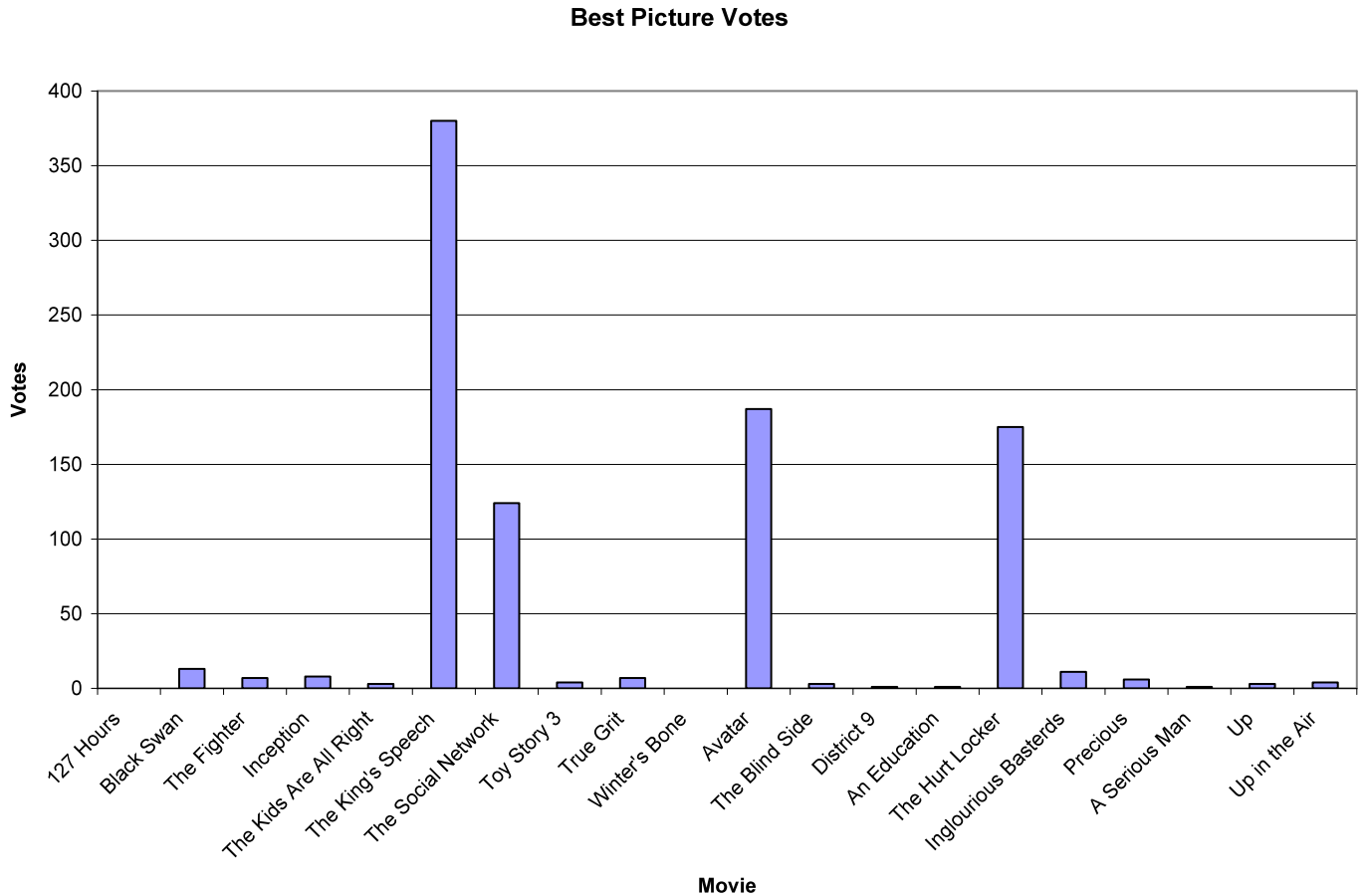


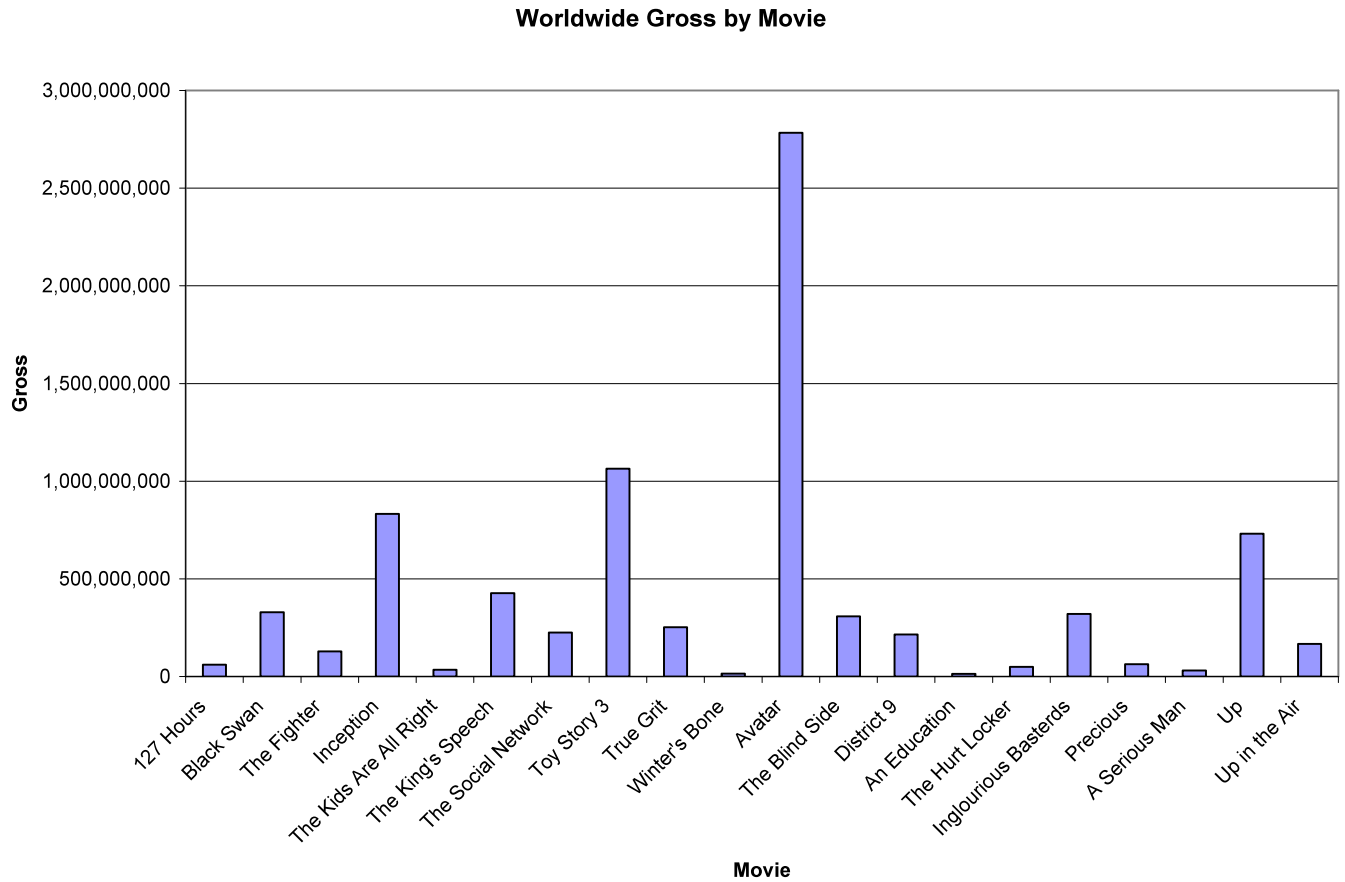
Do the “Best” Movies Make the Most Money?

The graph below shows the movies nominated for the Academy Award for Best Picture from the 2011 and 2010 ceremonies. Each year a total of ten movies are nominated. The graph below shows the number of votes each movie received for “Best Picture.”



1. Make three observations from the data in the bar graph above. Remember, the first ten movies were from the 2011 ceremony and the last ten, beginning with Avatar are from the 2010 ceremony.

2. The bar graph below gives the amount of money that each of these 20 movies made worldwide at theatres. This is called “worldwide gross.”



2. Make three observations from the data in the bar graph above. Remember, the first ten movies were from the 2011 ceremony and the last ten, beginning with Avatar are from the 2010 ceremony.

3. Is there a correlation between the number of votes a movie receives for best film and the amount of money a movie makes at theatres? We can create a scatter plot to find out. Below are the actual votes and worldwide gross for each of the 20 Academy Award nominees for Best Film:

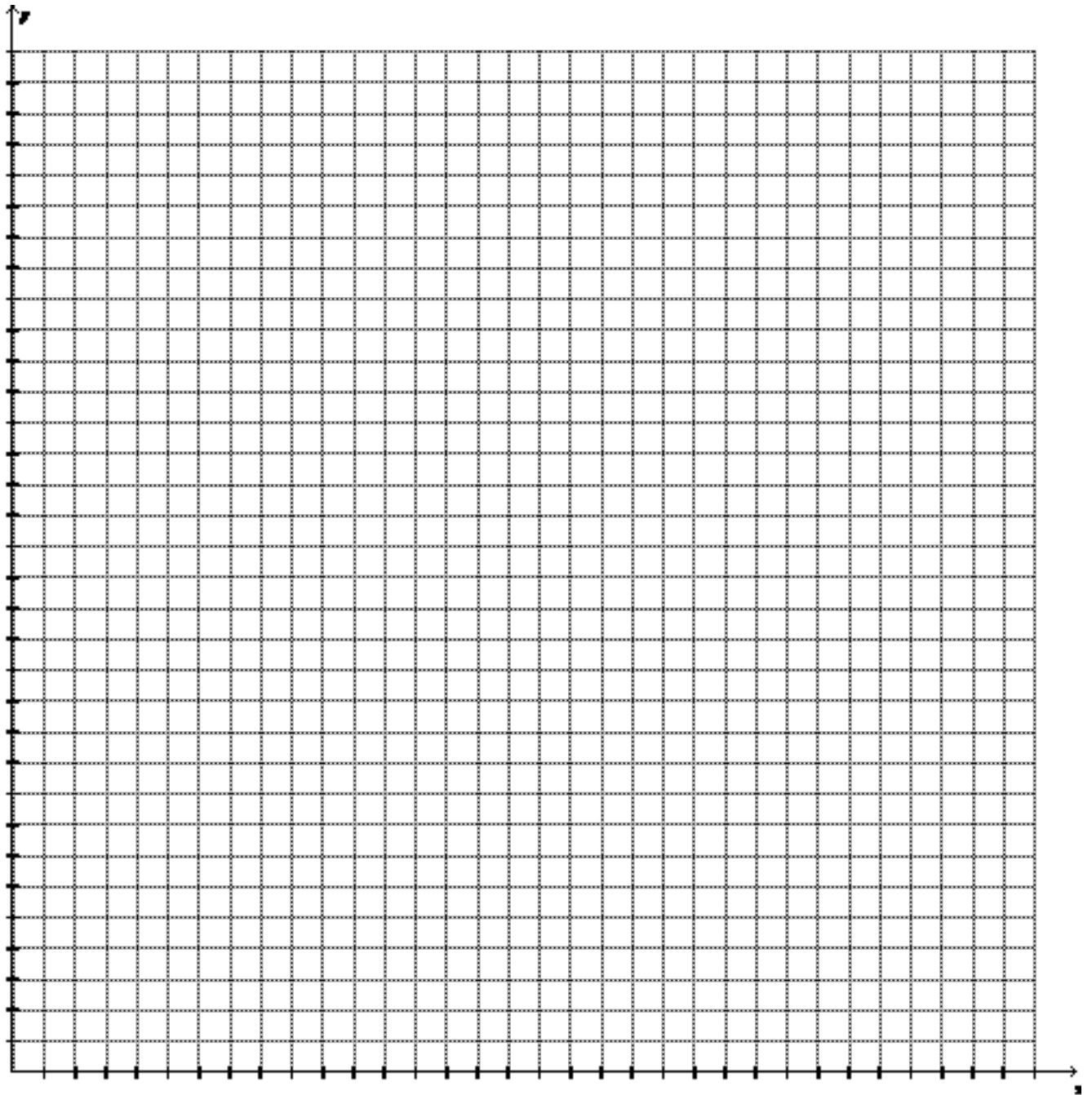
Best Film Nominee	Votes	Worldwide Box Office
127 Hours	0	\$60,735,230
Black Swan	13	\$329,454,678
The Fighter	7	\$129,217,009
Inception	8	\$832,584,416
The Kids Are All Right	3	\$34,711,365
The King's Speech	380	\$427,374,139
The Social Network	124	\$224,922,135
Toy Story 3	4	\$1,064,404,880
True Grit	7	\$252,276,928
Winter's Bone	0	\$14,231,503
Avatar	187	\$2,783,918,982
The Blind Side	3	\$308,159,475
District 9	1	\$215,196,627
An Education	1	\$14,134,502
The Hurt Locker	175	\$49,678,776
Inglourious Basterds	11	\$320,389,438
Precious	6	\$63,471,431
A Serious Man	1	\$30,710,147
Up	3	\$731,304,609
Up in the Air	4	\$166,842,739

Use the data above to create a scatter plot comparing votes and worldwide gross for all 20 movies. You may use a separate sheet of graph paper or the grid on the following page. After you create your scatter plot be sure to answer the following questions:

4. Are there any areas where most of the data seems to be clustered? If so, discuss this cluster of data, how much did the movies tend to make and how many votes did they receive?

5. Are there any movies that appear to be outliers? Outliers are values that are outside the norm or that do not follow the trend of the rest of the data.

6. Does there seem to be an association between best film votes and worldwide gross? Explain any association or lack of association that you see (does there appear to be any relationship between votes and worldwide gross)? If so, is it linear nonlinear, positive or negative?



Extension: Compare the average worldwide gross from the best picture nominees with a random sample of movies from 2009 to 2010. You can find the worldwide gross for not nominated movies at <http://www.the-numbers.com/>. Randomly select movies from 2009 and 2010 and then go into their profile to find their worldwide gross. How does the average worldwide gross of the nominated films compare to that of the non-nominated?