

Pirates of the Caribbean

Pirates of the Caribbean: Dead Men Tell No Tales, was released at theaters May 26, 2017. This is the fifth movie in the ***Pirates of the Caribbean*** franchise. So we wondered how much does it cost to make a movie like this and how much money does a movie like this typically make?

One way to determine this is to look at the numbers for the first four *Pirates of the Caribbean* movies. The chart below gives some important statistics from the first four movies in the franchise.

Movie	Budget (Estimated)	Opening Weekend (U.S. Only) Revenue	Worldwide Box Office Gross Revenue	
<i>Pirates of the Caribbean: The Curse of the Black Pearl (2003)</i>	\$125,000,000	\$46,630,690	\$634,954,103	
<i>Pirates of the Caribbean: Dead Man's Chest (2006)</i>	\$225,000,000	\$135,634,554	\$1,066,215,812	
<i>Pirates of the Caribbean: At World's End (2007)</i>	\$300,000,000	\$114,732,820	\$963,420,425	
<i>Pirates of the Caribbean: On Stranger Tides (2011)</i>	\$250,000,000	\$90,151,958	\$1,045,663,875	

1. Study the data in the chart for a few minutes. What do you notice? Record at least two mathematical observations below.
2. This franchise has made a lot of money! About how much money have the four movies made combined? Don't worry about getting an exact sum; try to get a very good estimate or estimate to the nearest million.
3. Add the title "Profit" to the last column. Find the profit that each movie made by finding the difference in each movie's Worldwide Box Office Revenue and the movie's budget. Which movie made the most profit?
4. The average U.S. movie ticket cost in 2003 with about \$6. In 2006 it was about \$6.50 and 2007 was about \$7.00. In 2011 the average ticket price reached about \$8.00. How can you use the average ticket prices in these years to estimate the number of people that saw each movie during its opening weekend? Estimate the number of viewers for each movie's opening weekend.

5. Using your answer to question four, how many people in the U.S. would you expect to see the new movie during its opening weekend? Currently, the average U.S. movie ticket price is \$8.65. How much should we expect the new movie to make during its opening weekend?

6. How much does the typical Pirates movie make worldwide? How did you figure this out? Share your reasoning below.

7. Your task is to predict how the new Pirate's movie will do in each category. Using the data from the first four movies predict the 5th movie's budget, opening weekend revenue in the U.S., worldwide box office gross revenue, all-time worldwide box office rank and finally the profit the movie will make. Add this data to the bottom row of the chart. You must give mathematical reasons for each of your predictions.

8. Do you think that the four movies in the *Pirates of the Caribbean* movie franchise can together earn a worldwide box office gross of 5 billion dollars? Explain your reasoning.

Sources: <http://www.imdb.com/>
<http://www.the-numbers.com/movies/franchise/Pirates-of-the-Caribbean-tab=summary>
<http://boxofficemojo.com/yearly/>
<http://www.natoonline.org/data/ticket-price/>

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