

Taylor Swift Music Research

Name: _____



You are Taylor Swift's **social media manager**. You are responsible for promoting Taylor's songs and understanding how people respond to her songs online.



Your Challenge: What are Taylor's most popular songs on YouTube?

This table shows some of Taylor's top songs, the year of their release, and the number of YouTube views for each. However, the large numbers can be difficult to quickly read and compare.

1. Fill in the table to express each song's total views in scientific notation as shown in the example.

	Year	Song	# Views on YouTube	# Views on YouTube in Scientific Notation
a.	2009	<i>Our Song</i>	81,914,640	8.19×10^7
b.	2010	<i>Fearless</i>	23,365,153	
c.	2017	<i>Delicate</i>	293,772,935	
d.	2014	<i>Shake It Off</i>	2,670,089,762	

2. **Ratio of Views** - Using the numbers in scientific notation, write the ratios to compare her most popular songs. Divide each ratio and round this result to the tenth place.

View Ratio	View Ratio (rounded to the tenths place)
$\frac{\text{Song a}}{\text{Song b}} =$	
$\frac{\text{Song a}}{\text{Song c}} =$	
$\frac{\text{Song b}}{\text{Song c}} =$	

3. **Difference in Views** – Determine the difference in number of views for the following songs:

View Difference	Difference (rounded to the tenths place)
$Song\ a - Song\ b =$	
$Song\ c - Song\ b =$	
$Song\ d - Song\ a =$	

4. **Combined Views** – Using scientific notation, determine the combined views of the following songs:

Combined Views	Total (rounded to the tenths place)
$Song\ a + Song\ b =$	
$Song\ c + Song\ d =$	
$Song\ b + Song\ c =$	

5. **Squared Views** – Over time, the number of view will increase by the number squared. Using scientific notation, determine the increased views for the following songs:

Combined Views	Total (rounded to the tenths place)
$(Song\ a)^2 =$	
$(Song\ b)^2 =$	
$(Song\ c)^2 =$	