

# Find the best song for this phrase!

**Don't break my heart**



**Step 1)** Find the IDF for each word in the phrase

Word	DONT	BREAK	MY	HEART
IDF				

1

**Step 2)** Calculate the TF-IDF for each of the songs

Find the word count and total word count for each song on the posters!

TF IDF =

Number of times  
a word is in a song

Total number of  
words in a song

**TF**

x

Inverse document  
frequency

**IDF**

**Step 3)** Calculate the total TF-IDF for each song using the tables below! The highest score is the best match!

2

**Song 1: Dance the night**

**Total word count:** \_\_\_\_\_

	Word Count	TF <small><math>\frac{\text{Word Count}}{\text{Total word count for song}}</math></small>	IDF <small>(from step 1)</small>	TF-IDF <small>(TF x IDF)</small>
DONT				
BREAK				
MY				
HEART				
			<b>Total TF-IDF (Sum of TF-IDF)</b>	

2

1

Song 2: Flowers

Total word count: \_\_\_\_\_

	Word Count	TF <div>Word Count</div> <div>Total word count for song</div>	IDF (from step 1)	TF-IDF (TF x IDF)
DONT				
BREAK				
MY				
HEART				
			Total TF-IDF (Sum of TF-IDF)	

Song 3: Let it go

Total word count: \_\_\_\_\_

	Word Count	TF <div>Word Count</div> <div>Total word count for song</div>	IDF (from step 1)	TF-IDF (TF x IDF)
DONT				
BREAK				
MY				
HEART				
			Total TF-IDF (Sum of TF-IDF)	

Song 4: September

Total word count: \_\_\_\_\_

	Word Count	TF <div>Word Count</div> <div>Total word count for song</div>	IDF (from step 1)	TF-IDF (TF x IDF)
DONT				
BREAK				
MY				
HEART				
			Total TF-IDF (Sum of TF-IDF)	

Song 5: Shake it off

Total word count: \_\_\_\_\_

	Word Count	TF <small><math>\frac{\text{Word Count}}{\text{Total word count for song}}</math></small>	IDF <small>(from step 1)</small>	TF-IDF <small>(TF x IDF)</small>
DONT				
BREAK				
MY				
HEART				
Total TF-IDF <small>(Sum of TF-IDF)</small>				

Song 6: We don't talk about Bruno

Total word count: \_\_\_\_\_

	Word Count	TF <small><math>\frac{\text{Word Count}}{\text{Total word count for song}}</math></small>	IDF <small>(from step 1)</small>	TF-IDF <small>(TF x IDF)</small>
DONT				
BREAK				
MY				
HEART				
Total TF-IDF <small>(Sum of TF-IDF)</small>				

	Total TF-IDF
Dance the night	
Flowers	
Let it go	
September	
Shake it off	
We don't talk about Bruno	

Best suggestion!

Largest TF-IDF Score
Best Song Title