Name: Class OUTPUT   Date: -

Consumer Systems: The Long Tail

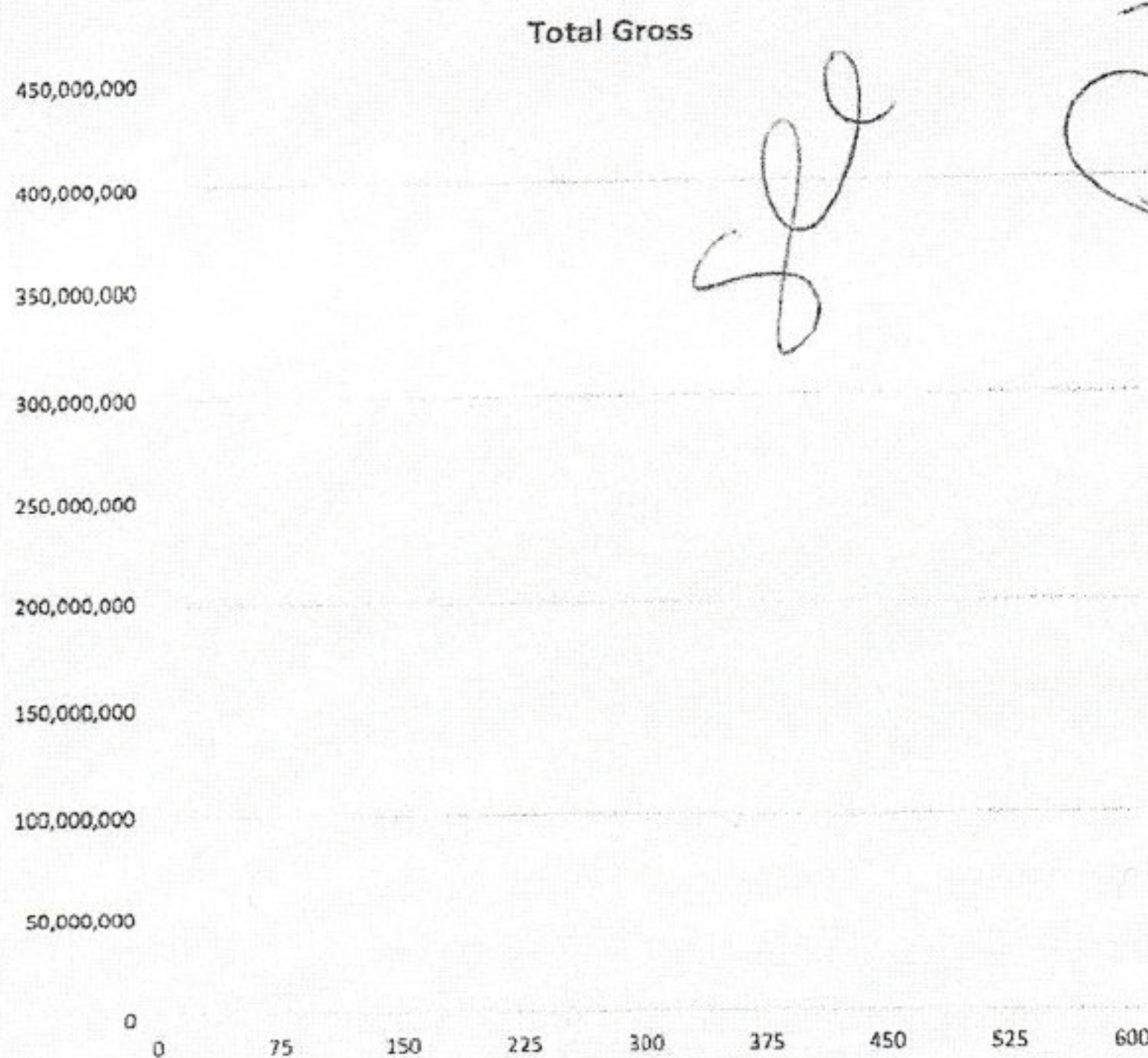After completing this activity you will be able to: explain what a long tail distribution is and why it matters.

Step 1: Individually

Head to the website showing 2016 Domestic (US) Box Office Totals: http://www.boxofficemojo.com.
Look under Box Office...Yearly and Select "2016" then complete this table:

Rank	Movie Title	Gross Sales	Rank	Movie Title	Gross Sales
1			225		
10			300		
25			375		
50			450		
75			525		
150			600		

Step 2: In Groups (2-3)

Compare your tables with other group members (e.g., reach agreement on the data!) Graph the data onto this chart:

Total Gross

```
450,000,000
400,000,000
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
 50,000,000
          0
            0    75   150   225   300   375   450   525   600
```

Once all the data is charted, draw a line connecting the individual data points. Then answer these questions:

- There are 3 general measure of central tendency (e.g., average). How much money did the average movie make?
  - Mean:
  - Median:
  - Mode:

- If you totaled up box office receipts from the bottom N movies, about how many movies would it take to match the total for the top-grossing film?

- Do you think the top-ten ranking movies were the best movies of the year?
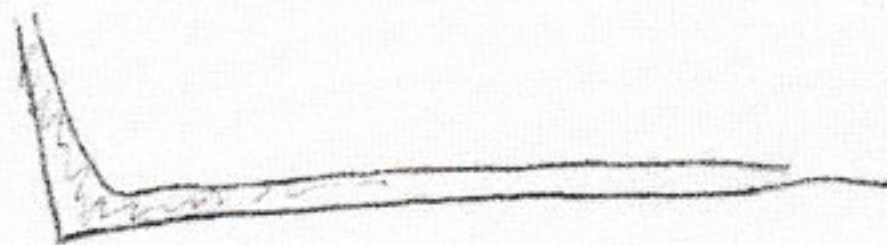
(handwritten, top right) see next pages

Step 3: Discuss as a Class

- Differences between mean, median, and mode in long-tail distribution vs. normal distribution.

(handwritten) → all very different numbers   → close to mean

Step 4: Answer these short-answer questions (underline) individually

1. Draw a long-tail distribution:

2. What is an example of a product or service (other than movies!) that follows the long-tail distribution? *(handwritten)* used books, songs (itunes), paper books sold on Amazon

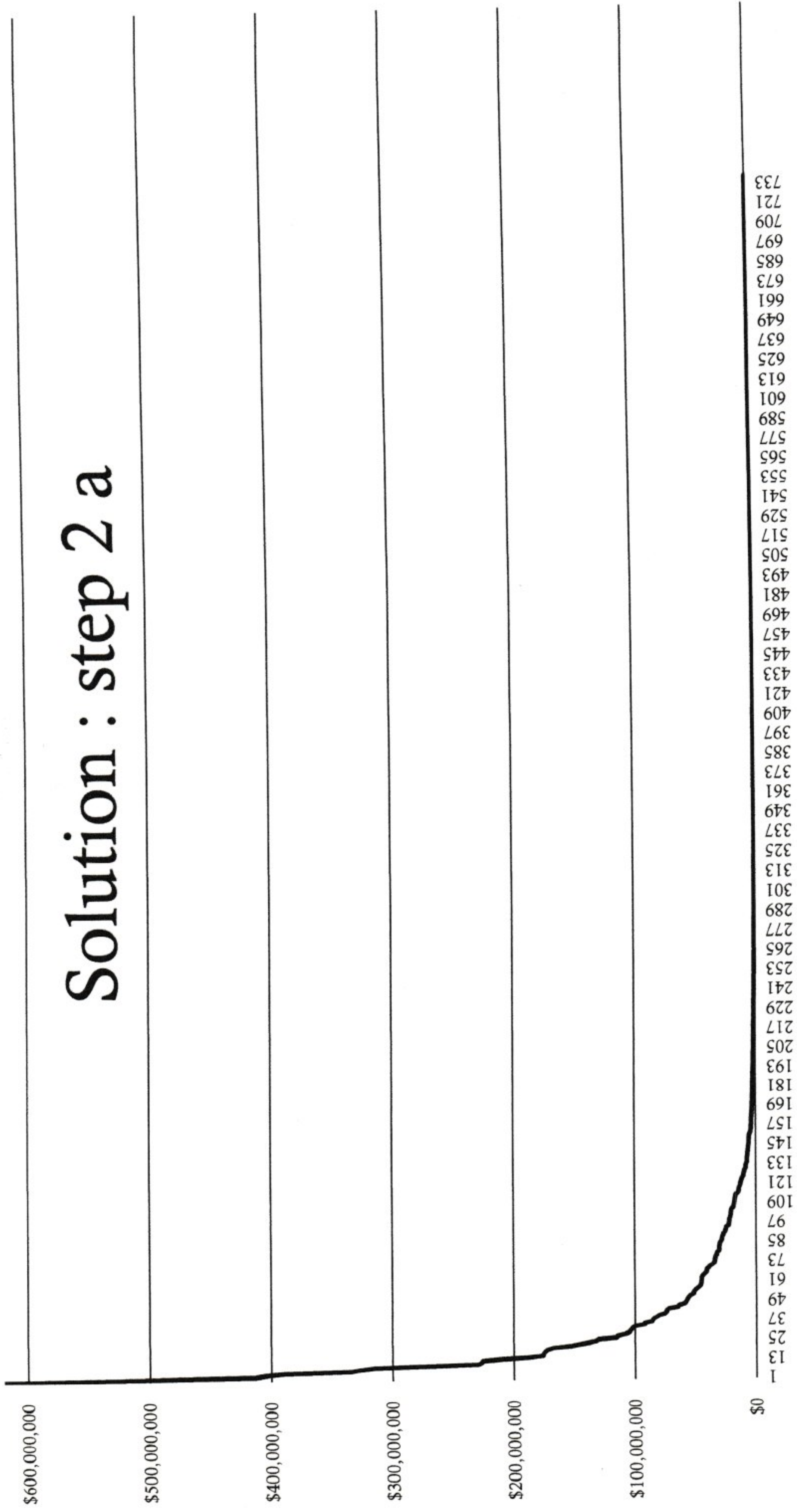3. Why does it matter what distribution products sales follow? *(handwritten)* it will require a different marketing & inventory management strategy/process

4. What is something you learned doing this activity?

Step 8: Rate this activity (individually)					
Ratings	1 Completely Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat Agree	5 Completely Agree
Statement				Rating (1 to 5)	
This is an engaging activity.					
This activity helped me learn more about today's topic.					
This activity should be included in future classes.					
Anything else you want the instructor to know?					

Solution : step 1

Rank	Title	Gross Sales
1	Star Wars: The Last Jedi	$620,181,382
10	Justice League	$229,024,295
25	Transformers: The Last Knight	$130,168,683
50	Darkest Hour	$56,468,410
75	Geostorm	$33,700,160
150	Tiger Sinda Hai	$5,560,921
225	Churchill	$1,281,258
300	Chasing Trane: The John Coltrane Documentary	$406,284
375	The Void	$151,042
450	Extraordinary Mission	$54,174
525	The Departure	$24,662
600	Shadowman	$13,498

Solution : step 2 a

$600,000,000	
$500,000,000	
$400,000,000	
$300,000,000	
$200,000,000	
$100,000,000	
$0	

1 13 25 37 49 61 73 85 97 109 121 133 145 157 169 181 193 205 217 229 241 253 265 277 289 301 313 325 337 349 361 373 385 397 409 421 433 445 457 469 481 493 505 517 529 541 553 565 577 589 601 613 625 637 649 661 673 685 697 709 721 733

Solution : step 2 b

Mean	$89,752,872
Median	$3,421,090
Mode	#N/A

$$\rightarrow \frac{[5,560,921 + 1,281,258]}{2}$$

Top Movie Sales	$620,181,382
Sales from Movies #113 to 740	$625,058,866
(ie : 628 bottom movies to match the top movie)	