Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Lesson 1.1: Comparative Statistics in the Music Industry***

The RIAA (Recording Industry Association of America) provides the most comprehensive data on U.S. recorded music revenues and shipments dating from 1973. The RIAA is the most definitive source of revenue data for the industry. You have been given charts from the RIAA’s website <https://www.riaa.com/u-s-sales-database/> that will allow us to compare music sales from 1996, 1999, 2006, and 2011. For this exercise, we will focus on the CD sales in each year. You should use a PENCIL and show all of your work. You will need a calculator for this exercise.

**Step 1: Calculate percentage of revenue that comes from CD sales**

1. What percentage of revenue came from CD sales in 1996? Show all of your work below.



Percentage of revenue from CD sales in 1996

79.3 %

2. What percentage of revenue came from CD sales in 1999? Show all of your work below.



Percentage of revenue from CD sales in 1999.

87.9 %

3. What percentage of revenue came from CD sales in 2006? Show all of your work below.



Percentage of revenue from CD sales in 2006

79.7 %

4. What percentage of revenue came from CD sales in 2011? Show all of your work below.



Percentage of revenue from CD sales in 2011

43.5 %

\*CHECK YOUR PERCENTAGES WITH MRS. SCHENKEL BEFORE MOVING FORWARD\*

**Step 2: Compare percentages of revenue coming from CD sales in different time intervals using comparative statistics learned in lesson 1.1**

1. Compare 1996 to 1999

|  |  |  |
| --- | --- | --- |
| **Percentage in 1996: 79.3%** | | |
| **Percentage in 1999: 87.9%** | | |
| **Statistic Type** | **Work** | **Answer** |
| **Subtraction** | 87.9% - 79.3% | 8.60% |
| **Division** | 87.9%/79.3% | 1.1084489 |
| **Percent Change** | 8.6%/79.3% | 0.1084489 |

-Which comparative statistic would you use if you wanted to make revenue from CD sales look as large as possible?

I would use the division or percent change statistic if I wanted to make the revenue from CD sales look as large as possible. Those statistics suggest a 10% or 11% increase while the subtraction statistic only shows an 8.6% increase.

-Write a sentence as if it were to appear in a newspaper using the statistic noted above.

Music sales from the mid to late 90s have skyrocketed according to a report by the RIAA. CD Sales alone rose almost 11% from 1996 to 1999.

2. Compare 1999 to 2006

|  |  |  |
| --- | --- | --- |
| **Percentage in 1999: 87.9%** | | |
| **Percentage in 2006: 79.7%** | | |
| **Statistic Type** | **Work** | **Answer** |
| **Subtraction** | 79.7% - 87.9% | -8.20% |
| **Division** | 79.7%/87.9% | 0.906712173 |
| **Percent Change** | negative (8.2%/79.7%) | -0.093287827 |

-Why is the Subtraction and Percent Change statistic negative?

These statistics are negative because CD sales decreased from 1999 to 2006.

- Calculate the Division Statistic – the Percent Change Statistic. What do you get? Does this surprise you?

9.906712173 – ( - 0.093287827) = 1

This doesn’t surprise me. The division statistic of about 91% shows that the revenue from CD sales kept 91% of its amount, or I could say that it decreased (or lost) 9% of its amount from 1999 to 2006. The Percent Change statistic of -0.093 (or -9%) shows that the CD sales decrease by 9% in those years.

-Pretend you are a music producer in 2006 that solely produces CDs. Which statistic would you present to your boss in order to calm him/her down about CD sales declining?

I understand your concern Mr. Boss. However, according to the numbers we received from the RIAA 91% of the revenue from CD Sales was maintained over the past 7 years. There is no need to be alarmed at this time. We simply need to meet with the marketing and advertising departments to find a creative way to sell CDs.

3. Compare 2006 to 2011

|  |  |  |
| --- | --- | --- |
| **Percentage in 2006: 79.7%** | | |
| **Percentage in 2011: 43.5%** | | |
| **Statistic Type** | **Work** | **Answer** |
| **Subtraction** | 43.5% - 79.7% | -36.20% |
| **Division** | 43.5%/79.9% | 0.544430538 |
| **Percent Change** | negative (36.2%/79.7%) | -0.454203262 |

-Why is the Subtraction and Percent Change statistic negative?

These statistics are negative because CD sales decreased from 2006 - 2011.

- Calculate the Division Statistic – the Percent Change Statistic. What do you get? Does this surprise you?

0.544430538 – (-0.454203262) = 1

This doesn’t surprise me. The division statistic of about 55% shows that the revenue from CD sales kept 55% of its amount, or I could say that it decreased (or lost) 45% of its amount from 2006 to 2011.. The Percent Change statistic of -0.45 (or -45%) shows that the CD sales decrease by 45% in those years.

-Pretend you’re the music producer who is still dependent on CD sales in 2011. Is there anyway to calm your boss down now?

There is no way to calm my boss down now. At this time we’ve got to sit down and face the fact that this is a dying business. We probably should have realized it back in 2006. It’s time to move on.

4. Compare 1996 to 2006

|  |  |  |
| --- | --- | --- |
| **Percentage in 1996: 79.3%** | | |
| **Percentage in 2006: 79.7%** | | |
| **Statistic Type** | **Work** | **Answer** |
| **Subtraction** | 79.7% - 79.3% | 0.4 |
| **Division** | 79.7%/79.3% | 1.005044136 |
| **Percent Change** | 0.40%/79.3% | 0.005044136 |

-Does comparing 1996 to 2006 give an accurate statistic of what happened in the 10 year span?

When comparing 1996 to 2006, it may look as through revenue from CD sales has slightly increased (a little less than half a percent using the subtraction stat or exactly half of a percent using the div/percent change stat). If we didn’t have the data from 1999 we wouldn’t know how much CD sales boomed in the late 90s.

-Can you think of a scenario by which somebody would specifically choose to use these comparative statistics?

Perhaps the music producer from the above two scenarios would choose to present these stats comparing 1996 – 2006 if he was trying to calm his boss down. By using these stats it paints a picture of an industry that is reliable and steady instead of one that is quickly declining.

5. Compare 1999 to 2011

|  |  |  |
| --- | --- | --- |
| **Percentage in 1999: 87.9%** | | |
| **Percentage in 2011: 43.5%** | | |
| **Statistic Type** | **Work** | **Answer** |
| **Subtraction** | 43.5% - 87.9% | -44.40% |
| **Division** | 43.5%/87.9% | 0.494880546 |
| **Percent Change** | negative (44.4%/87.9%) | -0.505119454 |

-Let’s pretend you are a music producer trying to implore your company to ditch CD production and explore other avenues of revenue in the music business. What statistics would you use in a presentation to the board of your company? Write a paragraph making your pitch.

First, I would like to thank you all for taking the time to meet with me today. We are all here because we love music and we’re passionate about the manner in which it’s distributed to our listeners. I’ve been analyzing the final numbers we just received from the RIAA. As you can see, there has been over a 50% decrease in revenue from CD sales from 1999 to 2011 (percent change stat). It is time that we start exploring other avenues of revenue. We must take a hard look at our customers and analyze the most convenient way for them to get their music and innovate new technologies that meet their needs while also providing an income for the artists who work so hard. I am asking for our company to abandon CD sales as being our main reliance, and I call for a team of creative team members to begin investing in the future of this company.

**Step 3: The Real World**

Think about what you know about the music industry. Why have CD sales declined since 1999? What happened that changed the way music is distributed in the United States?

Napster and the free distribution of music (pirating).