



Name: _____

Date: _____

Fan Cost Index

Diagnostic Assessment

Commission at a Gym

1. For each gym membership sold, the gym keeps \$42 and the employee who sold it gets \$8. What is the commission the employee earned as a percentage of the total cost of the gym membership?
2. If an employee sells a family pass for \$135, what is the amount of the commission they get to keep?

Engage

Who loves to eat concession food at a ballgame?

What do you think the best food is served at SoFi stadium?

Watch [Best Food to Try at SoFi Stadium](#)

1. Do you think the types of food served are dependent on the area?
2. Does the team make money from concession sales?
3. Are prices for concession items expensive compared to McDonalds?
4. What are some things you have eaten at a professional game that were delicious?

Explore

An index is a numerical scale. Characteristics of an index can be used for the following:

- to compare variables with one another or a reference number,
- to give information about general trends, and
- to help make comparisons and judgments.

It is often calculated as a weighted sum of various factors resulting in a single summary number. The Fan Cost Index (FCI) tracks the cost for a family of four to attend a professional sporting event. The FCI includes the prices in dollars of four average price tickets, four soft drinks, two other drinks, four hot dogs, parking for one car, two game programs, and two adult-size adjustable caps.

The FCI for each Texas team in professional baseball, basketball, and football for 2018 and 2021 is shown in the following two tables. The soft drink column includes the price of one drink of average size.

2018 Fan Cost Index								
Team	Avg. Ticket Price	Soft Drink	Other Drink	Hotdog	Parking	Program	Cap	FCI
Rangers (Arlington Stadium)	\$26.94	\$4.50	\$6.00	\$5.00	\$20.00	\$10.50	\$30.00	\$280.76
Astros (Minute Maid Park)	\$40.25	\$5.00	\$7.00	\$5.50	\$17.50	\$10.00	\$30.00	
Spurs (AT&T Center)	\$62.00	\$5.00	\$9.00	\$5.50	\$17.50	\$15.00	\$30.00	\$453.50
Mavericks (American Airlines Center)	\$49.76	\$5.50	\$10.38	\$5.50	\$20.00	\$10.00	\$30.00	
Rockets (Toyota Center)	\$67.24	\$5.25	\$9.75	\$5.50	\$20.00	---	\$30.00	
Cowboys (AT&T Field)	\$112.05	\$6.00	\$10.25	\$6.00	\$42.50	\$12.00	\$30.00	\$667.20
Texans (NGR Stadium)	\$107.67	\$5.50	\$10.25	\$5.50	\$45.00	\$12.50	\$30.00	

2021 Fan Cost Index

Advanced Mathematical Decision Making Unit 1
Georgia's K-12 Mathematics Standards

Rangers (Arlington Stadium)	\$38.04	\$6.50	\$8.00	\$5.50	\$25.00	\$12.50	\$30.00	\$354.16
Astros (Minute Maid Park)	\$57.41	\$5.50	\$7.50	\$6.00	\$22.50	\$10.00	\$32.50	\$414.14
Spurs (AT&T Center)	\$59.00	\$7.00	\$10.50	\$6.00	\$20.00	\$15.00	\$32.50	\$460.00
Mavericks (American Airlines Center)	\$59.00	\$8.00	\$11.50	\$6.50	\$30.00	\$10.00	\$32.50	\$446.00
Rockets (Toyota Center)	\$73.28	\$7.00	\$11.50	\$6.00	\$22.50	---	\$32.50	\$431.62
Cowboys (AT&T Field)	\$99.50	\$7.00	\$14.00	\$6.50	\$95.00	\$12.00	\$32.50	\$686.00
Texans (NGR Stadium)	\$118.07	\$7.00	\$11.00	\$6.00	\$50.00	\$12.50	\$32.50	\$712.28

1. Complete the 2018 table by calculating the missing Fan Cost Index (FCI) values.
2. There are seven components in the FCI. Find the largest percent increase in a single component from 2018 to 2021 by giving the team, component, and percent increase.
3. Create a Personal Cost Index (PCI) in which you select only the items and the number of those items that you and three friends would buy (for example, 4 tickets, 8 hot dogs, no soft drinks, no caps).
4. In 2021, which team was the best buy according to your PCI? Why?

Apply

This table includes the US inflation rates for 2017 to 2021.

Inflation Rates from 2017 to 2021					
Year	2017	2018	2019	2020	2021
Inflation Rate %	2.1	1.9	2.3	1.4	7.0

The next table contains the average FCI for all teams in Major League Baseball (MLB), the National Basketball Association (NBA), and the National Football League (NFL) for 2016 to 2021.

Average FCI for MLB, NBA, and NFL for 2016-2021						
Year	2016	2017	2018	2019	2020	2021
MLB	\$219.53	\$219.53	\$230.642	\$234.3803	\$240.54	\$260.58
NBA	\$339.02	\$406.60	\$420.58	*	\$438.49	\$444.06
NFL	\$502.84	\$533.24	\$536.04	\$539.05	\$552.92	\$568.18

*2019-2020 NBA season suspended

(Source: teammarketing.com)

1. Did the rate of increase of each sport's average FCI exceed the rate of inflation for all these years? Find the sport, year, and rate of increase for all cases in which the average FCI rate increase did not exceed the inflation rate.
2. Find the sport and year in which the average rate of increase exceeded the inflation rate by the greatest amount.

Test and Reflect

Why do you think the FCI is highest for the NFL and lowest for MLB?

There are several indices related to consumer spending. Two of them are the Consumer Price Index (CPI) and the Consumer Confidence Index (CCI). Find out how they are calculated and how they are used.