

The Principal's Dilemma Anchor Papers

STUDENT A

Professor Xavier is the principal of Anytown Middle School. He has been told by the school board that he only has enough funding to pay 4 club sponsors next year. The school board has told him to cancel the club with the least amount of growth in membership. Below is a chart detailing club membership for each of the five clubs at Anytown Middle School over the past two years.

+37.5% -30.30% +27.7% -20% -16%

| Number of Members in... | Chess Club | Drama Club | Anime Club | Robotics Club | Environment Club |
|-------------------------|------------|------------|------------|---------------|------------------|
| 2018 | 11 | 28 | 23 | 32 | 21 |
| 2017 | 8 | 33 | 18 | 40 | 25 |

If the principal follows the school board's request, which club should he cancel for the 2019 school year?

Environment Club

Be sure to justify your response with the percent change of membership growth for each club.

$$\begin{array}{l}
 \frac{\text{diff}}{\text{original}} \quad \frac{11-8}{8} = \frac{3}{8} = 37.5\% \qquad \frac{23-18}{18} = \frac{5}{18} = 27.7\% \\
 \frac{33-23}{33} = \frac{10}{33} = 30.30\% \qquad \frac{40-32}{40} = \frac{8}{40} = 20\% \\
 \frac{25-21}{25} = \frac{4}{25} = 16\%
 \end{array}$$

Do you agree or disagree? Why or Why not. If you disagree, what club would you cancel and why?

I disagree because helping the environment is important and removing it would be wrong I think Robotics needs to be shut down because no one was joining it and it doesn't really help.

After discussing with your classmates, have you changed your position? Why or Why not.

No my opinion did not change

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STUDENT B

Professor Xavier is the principal of Anytown Middle School. He has been told by the school board that he only has enough funding to pay 4 club sponsors next year. The school board has told him to cancel the club with the least amount of growth in membership. Below is a chart detailing club membership for each of the five clubs at Anytown Middle School over the past two years.

| Number of Members in... | Chess Club | Drama Club | Anime Club | Robotics Club | Environment Club |
|-------------------------|------------|------------|------------|---------------|------------------|
| New 2018 | 11 | 28 | 23 | 32 | 21 |
| Old 2017 | 8 | 33 | 18 | 40 | 25 |

If the principal follows the school board's request, which club should he cancel for the 2019 school year?

Be sure to justify your response with the percent change of membership growth for each club.

| Chess | Drama | Anime | Robotics | Environment |
|----------|--------------------------|--------------------|-------------------------|--------------------------|
| increase | Decrease | increase | Decrease | increase |
| | diff ori | diff ori | | |
| | 28 -33 | 23 -18 | 32 -40 | 21 -25 |
| | -5 | 5 | -8 | -4 |
| | $-5 \div 33 = -0.15$ | $5 \div 18 = 3/10$ | $-8 \div 40 = -0.2$ | $-4 \div 25 = -0.16$ |
| | $-0.15 \times 100 = -15$ | 300 | $-0.2 \times 100 = -20$ | $-0.16 \times 100 = -16$ |

Do you agree or disagree? Why or Why not. If you disagree, what club would you cancel and why?

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After discussing with your classmates, have you changed your position? Why or Why not.

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Task Supporting Documents

MIP 8.4 Percent of Increase and Decrease

$$\text{Percent of Change} = \frac{\text{New Value} - \text{Original Value}}{\text{Original Value}}$$

- Percent of Change is a ratio of the difference between the values to the original value written as a percent.
- If the new value is larger, the difference is positive and indicates an increase.
- If the new value is smaller, the difference is negative and indicates a decrease.

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STUDENT C

Professor Davis is the principal of Anytown Middle School. He has been told by the school board that he only has enough funding to pay 4 club sponsors next year. The school board has told him to cancel the club with the least amount of growth in membership. Below is a chart detailing club membership for each of the five clubs at Anytown Middle School over the past two years.

| Number of Members in... | Chess Club | Drama Club | Anime Club | Robotics Club | Environment Club |
|-------------------------|------------|------------|------------|---------------|------------------|
| 2018 | 11 | 28 | 23 | 32 | 21 |
| 2017 | 8 | 33 | 18 | 40 | 25 |

If the principal follows the school board's request, which club should he cancel for the 2019 school year?

_____ Robotics Club

Be sure to justify your response with the percent change of membership growth for each club.

$$poc = \frac{\text{difference}}{\text{original}}$$

| | | | | |
|--|---|---|---|---|
| | $\frac{11-8}{8} = \frac{3}{8}$ 37.5% increase | $\frac{33-28}{28} = \frac{5}{28}$.15 15% decrease | $\frac{25-18}{18} = \frac{7}{18}$.27 27% increase | $\frac{40-32}{32} = \frac{8}{32}$.20 20% decrease |
|--|---|---|---|---|

Environmental Club
 $\frac{25-21}{21} = \frac{4}{21}$
 16%

Do you agree or disagree? Why or Why not. If you disagree, what club would you cancel and why?

Disagree because Chess has the least people

After discussing with your classmates, have you changed your position? Why or Why not.

I didn't because Robotics had the most decrease, making it the correct answer

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STUDENT D

Professor Xavier is the principal of Anytown Middle School. He has been told by the school board that he only has enough funding to pay 4 club sponsors next year. The school board has told him to cancel the club with the least amount of growth in membership. Below is a chart detailing club membership for each of the five clubs at Anytown Middle School over the past two years.

| Number of Members in... | Chess Club | Drama Club | Anime Club | Robotics Club | Environment Club |
|-------------------------|-------------------|--------------------|------------------|----------------|--------------------|
| 2018 | 11 <i>3.75% I</i> | 28 <i>P 1.5% D</i> | 23 <i>2.7% I</i> | 32 <i>D</i> | 21 <i>D 1.9% I</i> |
| 2017 | 8 <i>3.75% I</i> | 33 <i>1.5% I</i> | 18 <i>2.7% I</i> | 40 <i>2% D</i> | 25 <i>1.6% I</i> |

If the principal follows the school board's request, which club should he cancel for the 2019 school year?
Robotics Club

Be sure to justify your response with the percent change of membership growth for each club.

Chess: $11 - 8 = 3 = \frac{3}{8} = 3.75\%$ Increase
 Drama: $33 - 28 = 5 = \frac{5}{33} = 1.5\%$ decrease
 Anime: $23 - 18 = 5 = \frac{5}{18} = 2.7\%$ increase
 Robotics: $40 - 32 = 8 = \frac{8}{40} = 2\%$ Decrease
 Environment: $25 - 21 = 4 = \frac{4}{25} = 1.6\%$ Decrease.

Do you agree or disagree? Why or Why not. If you disagree, what club would you cancel and why?
 I disagree because Robotics is very educational and a good way to experience engineering. I would cancel Anime club because to be honest it is a very specific subject that many people aren't interested in. It seems too specific to be a club.

After discussing with your classmates, have you changed your position? Why or Why not.

Yes, I would probably cut Chess club because it has the least amount of people.

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STUDENT E

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| Number of Members in... | Chess Club | Drama Club | Anime Club | Robotics Club | Environment Club |
|-------------------------|------------|------------|------------|---------------|------------------|
| 2018 | 11 | 28 | 23 | 32 | 21 |
| 2017 | 8 | 33 | 18 | 40 | 25 |

$3-$
 $5+$
 $5-$
 $8+$
 $4+$

If the principal follows the school board's request, which club should he cancel for the 2019 school year?
Chess

Be sure to justify your response with the percent change of membership growth for each club.

3 People left Chess 8 People joined Robotics
 5 People joined Drama 4 People joined Environment
 5 People left Anime

Do you agree or disagree? Why or Why not. If you disagree, what club would you cancel and why?

I would cancel chess because it has the least amount of people even though the anime

After discussing with your classmates, have you changed your position? Why or Why not.

I have not changed my opinion cause chess had the least people in the club

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STUDENT F

Professor Xavier is the principal of Anytown Middle School. He has been told by the school board that he only has enough funding to pay 4 club sponsors next year. The school board has told him to cancel the club with the least amount of growth in membership. Below is a chart detailing club membership for each of the five clubs at Anytown Middle School over the past two years.

| Number of Members in... | Chess Club | Drama Club | Anime Club | Robotics Club | Environment Club |
|-------------------------|------------|------------|------------|---------------|------------------|
| 2018 | 11 | 28 | 23 | 32 | 21 |
| 2017 | 8 | 33 | 18 | 40 | 25 |

If the principal follows the school board's request, which club should he cancel for the 2019 school year?
robotics club

Be sure to justify your response with the percent change of membership growth for each club.

| Chess | Drama | Anime | Robotics | Environment |
|--|---|---|--|---|
| $\frac{3}{8}$ \downarrow 0.375 37.5% increase | $\frac{5}{33} \rightarrow 0.1515$ 15.2% decrease | $\frac{5}{18} \rightarrow 0.2777$ 27.8% 27.8% increase | $\frac{8}{40} \rightarrow 0.2$ 20% decrease | $\frac{4}{25} \rightarrow 0.16$ 16% decrease |

Do you agree or disagree? Why or Why not. If you disagree, what club would you cancel and why?

I disagree, because even though it had the largest decrease in numbers, it still has the most members. I would cancel chess, because it has the least amount of members.

After discussing with your classmates, have you changed your position? Why or Why not.

No, because Chess still has the least amount of members