

# Nana's Birthday



M2C3 Project 2018



# Nana's Birthday Task



## Discuss in Small Groups

- In what situations have you been involved in sharing costs?
  - Think about situations with family, friends, siblings or coworkers. With family?
- How do you decide how much each person pays?
- What factors impact your decisions?



## Nana's Birthday (Version A)

It is Nana Rosa's 65<sup>th</sup> Birthday.

Her five grandchildren want to buy a special gift. She is a painter.

At the art store they found a professional paint set that comes with lots of paint colors and different size canvases and brushes. The paint set is on sale for \$200.00



## Nana's Birthday (Version A)

Maya, a 11<sup>th</sup> grader earns \$60 each week from her book store job.

Andrea, a 9<sup>th</sup> grader, earns \$30 each week from babysitting jobs.

Gabe, a 6<sup>th</sup> grader, earns \$10 each week taking care of his neighbor's pets.

Elisa, 4<sup>th</sup> grader, earn \$5 each week watering plants for the family garden.

Joaquín, a 2<sup>nd</sup> grader, has no weekly job but has saved \$8 in his piggy bank.



## Nana's Birthday (Version A)

One of the grandchildren says that they should split the cost of the paint set among them and each pay the same amount. Another sibling says that it is not fair and they should each pay different amounts.

What do you think? What is *fair* in this situation?

# Nana's Birthday- Your Task (Version A)



- Help the children make a plan to share costs in a fair way to buy the gift.
- Use mathematics to justify your conclusions.
- Your plan should work in other situations where family members want to share costs fairly.

# Nana's Birthday Task (Version B)



- It is Nana Rosa's 65<sup>th</sup> Birthday.
- Her five grandchildren want to buy a special gift. She is a painter.
- At the art store they found a professional paint set that comes with lots of paint colors and different size canvases and brushes. The paint set is on sale for \$199.00



# Nana's Birthday Task (Version B)

- Maya, a 11<sup>th</sup> grader earns \$60 per week from her book store job.
- Andrea, a 9<sup>th</sup> grader, earns between \$20-30 each week from babysitting jobs.
- Gabe, a 6<sup>th</sup> grader, earns \$10 each week taking care of a neighbor's pets.
- Elisa, a 4<sup>th</sup> grader, earns about \$5 each week watering plants for the family garden.
- Joaquín, a 2<sup>nd</sup> grader, has no weekly job but has saved \$8 in his piggy bank.
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# Nana's Birthday Task

## (Version B)

- One of the grandchildren says that they should split the cost of the printer among them and each pay the same amount.
- Another grandchild says that it is not fair and they should each pay different amounts.
- What do you think? What is *fair* in this situation?

# Nana's Birthday- Your Task

## (Version B)



- Help the children make a plan to share costs in a fair way to buy the gift.
- Use mathematics to justify your conclusions.
- Your plan should work in other situations where family members want to share costs fairly.

Task adapted from : Julia M. Aguirre & Maria del Rosario Zavala  
(2013) Making Culturally Responsive Mathematics Teaching Explicit:  
A Lesson Analysis Tool, *Pedagogies: An International Journal*, 8:2,  
163-190, DOI: [10.1080/1554480X.2013.768518](https://doi.org/10.1080/1554480X.2013.768518)