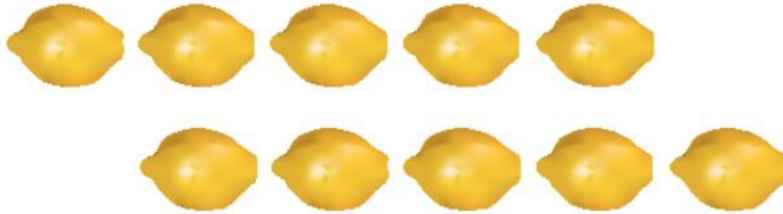


Claim	Domain	Target	DOK	CONTENT	MP
3	NF	B	3	4.NF.A, 4.NF.B.4	1

Liam is making lemonade. He needs 16 ounces of lemon juice. He has 10 lemons.



Each lemon makes about $1 \frac{1}{2}$ ounces of lemon juice. Will he have enough lemon juice? Explain how you know.

Claim	Domain	Target	DOK	CONTENT	MP
3	EE	B	3	6.G.A, 8.EE.A.4	1, 2, 3, 6

The surface area of Earth is 5.1×10^8 square km, and 71% of Earth's surface is covered in water. The diameter of the moon is 3475 km, and there is no water on the surface of the moon.

Which has more dry land, Earth or the moon? Show and/or explain the work necessary to support your answer.

Score	Description
2	The Student has demonstrated a full and complete understanding of all mathematical content and practices essential to this task. The student has addressed the task in a mathematically sound manner. The response may, however, contain minor flaws that do not detract from a demonstration of full understanding.
1	The student has demonstrated a partial understanding of the mathematical content and practices essential to this task. The student's response contains some of the attributes of an appropriate response but lacks convincing evidence that the student fully comprehends the essential mathematical ideas addressed by this task.
0	The student has demonstrated merely an acquaintance with the topic, or provided a completely incorrect or uninterpretable response. There are significant omissions or irregularities that indicate a lack of comprehension. No evidence is present that demonstrates the student's competence in problem solving, reasoning, and/or modeling related to the specific task.

Item-Specific Rubric for Grade 4 Item

2-points

Student determines that Liam does not have enough lemon juice supported by the total amount of lemon juice in the ten lemons (15 ounces).

OR

Student determines that Liam has close to the amount of lemon juice that he needs and supports this by describing that the total approximate amount of lemon juice (15 ounces) is close to the total needed (16 ounces).

1-point

Student correctly determines the number of ounces for 10 lemons (15 ounces), but provides an incorrect decision or no decision regarding whether this is enough or includes extraneous incorrect or uninterpretable information that draws into question the student's ability to clearly articulate the basis for his/her decision.

OR

Student performs an incorrect computation using a correct process (e.g., shows multiplication $10 \times 1\frac{1}{2}$ with incorrect total), and reaches a correct conclusion based on the result of the computation.

Scoring Note

The response provides work or an explanation that shows some understanding of the relationship between $1\frac{1}{2}$ ounces of juice per lemon to the amount of juice needed (16 ounces).

0-points

Student provides a conclusion (enough juice or not enough juice; yes or no), but without any explanation or work that supports the conclusion.

OR

Student's response lacks necessary evidence of the student's ability to justify a decision with mathematical reasoning.

Note: No calculators are used for mathematics items in Grades 3-5.





A TRIP TO THE ZOO

Anna and her family go to the zoo. The zoo ticket prices, snack shop menu, and gift store prices are shown in the tables.

Zoo Ticket Prices

Type of Ticket	Price
Adult (ages 12-64)	\$16
Senior (ages 65+)	\$13
Child (ages 2-11)	\$11
Under 2	Free

Gift Store Prices

Gift	Price
 Stuffed panda bear	\$ 9
 Zoo magnet	\$4
 Pack of 4 pens	\$6
 Photo frame	\$8

Snack Shop Menu

Food	Price
Hamburger	\$5
Cheeseburger	\$6
Salad	\$3
Pizza	\$3
Drinks	Price
Water	\$1
Milk	\$2
Juice	\$3
Soda	\$3

Anna's Family

- Betsy is an adult (ages 12-64)
- Grandma is a senior (ages 65 and up)
- Ray is a child (ages 2-11)
- Anna is a child (ages 2-11)

The family has \$100 to spend at the zoo.

Question 1.

Use the **Zoo Ticket Prices** table and **Anna's Family** list to answer the question.

What is the total cost, in dollars, of zoo tickets for Anna's family?

←→↶↷✖

1	2	3
4	5	6
7	8	9
0	.	

Question 2.

Part A


Use the **Snack Shop Menu** and **Anna's Family** list to answer the question. Each person in Anna's family will buy one food item and one drink. Choose one food and one drink item for each person. Enter the name for the food and drink choices for each member of the family and the total cost of the food and drink for each person.

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
Grandma	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
Ray	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
Anna	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>

Question 3.

Part B

Use the **Snack Shop Menu** and **Anna's Family** list to answer the question. Based on your response in Part A, what is the total cost, in dollars, of the food and drinks for Anna's family?



The calculator interface includes a top row of navigation buttons: left arrow, right arrow, undo, redo, and clear. Below these is a numeric keypad with buttons for digits 1-9, 0, and a decimal point.

Question 4.

Grandma says they will spend the remaining money at the gift store.

Part A

How much money, in dollars, is remaining after the family buys zoo tickets, food, and drinks? (Remember they started with \$100.)



The calculator interface includes a top row of navigation buttons: left arrow, right arrow, undo, redo, and clear. Below these is a numeric keypad with buttons for digits 1-9, 0, and a decimal point.

Question 5.

Use the **Gift Store Prices** table to answer the question.

Part B

Anna and Ray go into the gift store, Grandma says there are 2 rules for choosing what to buy:

- Do not buy more than one of any gift.
- You must buy at least two gifts.

In your answer, you must have the following

- Tell which gifts Anna and Ray can buy.
- Explain why there is enough money for the gifts you choose.



Zoo Trip – Grade 4 Student Responses

Question 1.

Student A Score _____

51

Student B Score _____

51

Student C Score _____

51

Student D Score _____

51

Student E Score _____

51

Student F Score _____

51

Student G Score _____

51

Student H Score _____

50

Student I Score _____

51

Student J Score _____

51

Student K Score _____

51

Student L Score _____

51.00

Student M Score _____

51

Question 2.

Student A

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Hamburger	Water	\$ 6
Grandma	Salad	Milk	\$ 5
Ray	Pizza	Juice	\$ 6
Anna	Salad	Milk	\$ 5

Student B

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Hamburger	Water	\$ 6
Grandma	Salad	Milk	\$ 5
Ray	Pizza	Juice	\$ 6
Anna	Cheeseburger	Soda	\$ 9

Student C

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Salad	Water	4.00
Grandma	Hamburger	Water	6.00
Ray	Cheeseburger	Juice	9.00
Anna	Pizza	Milk	5.00

Student D

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Salad	Water	4
Grandma	Salad	Water	4
Ray	Pizza	Water	4
Anna	Pizza	Water	4

Student E

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Hamburger	Water	6
Grandma	Hamburger	Water	6
Ray	Hamburger	Water	6
Anna	Hamburger	Water	6

Student F

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Hamburger	Water	6
Grandma	Cheeseburger	Milk	8
Ray	Pizza	Juice	6
Anna	Salad	Soda	6

Student G

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Salad	Water	4
Grandma	Salad	Water	4
Ray	Pizza	Water	4
Anna	Pizza	Water	4

Student H

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Pizza	Water	4
Grandma	Salad	Water	4
Ray	Pizza	Water	4
Anna	Pizza	Water	4

Student I

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Cheeseburger	Juice	9
Grandma	Salad	Milk	5
Ray	Hamburger	Soda	8
Anna	Pizza	Water	4

Student J

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Salad	Water	4
Grandma	Salad	Water	4
Ray	Pizza	Soda	6
Anna	Hamburger	Soda	8

Student K

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Hamburger	Soda	8
Grandma	Salad	Water	4
Ray	Pizza	Juice	6
Anna	Pizza	Milk	5

Student L

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Pizza	Soda	6
Grandma	Salad	Water	4
Ray	Cheeseburger	Milk	8
Anna	Hamburger	Juice	8

Student M

Score _____

	Food Choice	Drink Choice	Total Food and Drink Cost for Each Person
Betsy	Salad	Water	4
Grandma	Salad	Water	4
Ray	Pizza	Juice	6
Anna	Pizza	Juice	6

Question 3.

Student A

Score _____

22

Student B

Score _____

26

Student C

Score _____

24

Student D

Score _____

16

Student E

Score _____

24

Student F

Score _____

26

Student G

Score _____

16

Student H Score _____

16

Student I Score _____

26

Student J Score _____

22

Student K Score _____

23

Student L Score _____

26.00

Student M Score _____

71

Question 4.

Student A Score _____

27

Student B Score _____

23

Student C Score _____

25

Student D Score _____

33

Student E Score _____

25

Student F Score _____

23

Student G Score _____

33

Student H Score _____

34

Student I Score _____

23

Student J Score _____

27

Student K Score _____

26

Student L

Score _____

23.00

Student M

Score _____

29

Question 5.

Student A

Score _____

Anna – Zoo magnet and 4 pack of pens

$$\$4 + \$6 = \$10$$

$$\$27 - \$10 = \$17 \text{ left over}$$

Ray – Bear and photo frame

$$\$9 + \$8 = \$17$$

There is \$27 left after tickets and food are purchased. The two children purchase \$27 worth of gifts and have no money left over.

Student B

Score _____

Anna and Ray can buy a stuffed panda, photo frame, and pack of 4 pens. They can buy them because there is \$23.00 left after tickets and food and $9 + 8 + 6 = 23$.

Student C

Score _____

Ana and Ray have a total of \$25.00 to spend in the gift shop. Grandma has two rules that they must follow:

- They can't buy more than one of any gift
- They must buy at least two gifts

I would recommend Anna and Ray should buy a pack of 4 pens (\$6) to share, a panda bear (\$9), and a photo frame (\$8). They also only purchased one of each gift and followed grandma's rule.

\$6	
\$9	\$25.00
\$8	-\$23.00
\$23	\$2.00

They had \$25.00 to spend and purchased three gifts that cost \$23.00 -- $\$25.00 > \23.00 \$2.00 remaining money. They purchased 3 gifts > 2 gifts which is more than the minimum of two gifts rule.

Student D

Score _____

\$33 left

9	
+ 4	33
6	- 27
8	\$06
\$27	remaing

They can buy one of each (1 panda, 1 zoo magnet, 1 pack of pens, 1 photo frame) Because one of each gift only costs \$27 & they have \$33 to spend. If they buy one of each thing, they each will get 2 items & will have only 1 of each.

BOOM

Student E

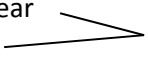
Score _____

<p>First Time</p> <p>Ana could get a zoo magnet: 4 And photo frame: + 8</p> <hr/> <p>12 \$</p> <p>And Ray could get a stuffed panda bear: 9 And zoo magnet: + 4</p> <hr/> <p>13</p> <p>12 + 13</p> <hr/> <p>25 \$</p>	<p>Second Time</p> <p>Both of them could get the same thing Zoo magnet 8 And photo frame: + 16</p> <hr/> <p>24 and 1 dollar remaining but both get even amount</p>
---	--

Answer: In conclusion, I think my second time was more evenly calculated did not spend over and final amount.

Student F

Score _____

Stuffed Panda bear
Photo Frame  \$17

Anna and Ray will share the toy and frame, because they don't have enough \$\$\$\$ to buy two toys for each of them.

Student G

Score _____

Ray buys the stuffed panda bear and Anna buys the photo frame. Those two items together cost \$17 which leaves them with \$16. They had enough because they saved their money by buying the cheapest items on the snack shop menu so they could get what they wanted at the gift shop.

Student H

Score _____

Anna	Ray	Total
Mag + Pen 4 6	Mag + Pen 4 6	= 20
Bear + pen 9 6	Photo + Mag 8 4	= 27
Bear + photo 9 8	Bear + photo 9 8	= 34

Each child can buy any two items while following grandmas rules, and still not go over the budget. Because unless they buy three bears (against the rules) Granny will be able to afford any combination her grandchildren through at her.

Student I

Score _____

Any combination of two different gifts.

\$26 Budget

$$9 + 4 = 13$$

$$9 + 6 = 15$$

$$9 + 8 = 17$$

$$4 + 6 = 10$$

$$4 + 8 = 12$$

$$8 + 6 = 14$$

All gift combos stay under \$26.

Student J

Score _____

I am not sure if each of them must buy 2 items or if its 2 items total?? I will go with a total of at least 2 items. They have enough money to buy one of each items ($9 + 4 + 6 + 8 = 27$). That's 1 panda, 1 magnet, 1 pack of pens, 1 photo frame and that uses the whole amount. If the rule is each of them must buy at least 2 items and its ok for each of them to buy the same thing there are other options. Here is one...

Anna – bear and magnet ($9 + 4 = 13$)

Ray – bear and magnet ($9 + 4 = 13$) Total = 26 with \$1 left over

Student K

Score _____

Anna buys a stuffed panda and a magnet. Her cost is \$13. Ray buys a pack of 4 pens and a magnet. His cost is \$10. They had \$26 and spent \$23 at the gift shop so they still have \$3.

Student L

Score _____

Anna can buy a pack of four pens and a zoo magnet. The magnet is \$4 and the pens are \$6. Together that makes ten dollars. Ray can buy the photo frame for \$8. There is enough money because they have \$23 left from the \$100 and the \$10 dollars from anna and \$8 from ray would be 18 dollars, and \$18 is less than \$23.

Student M

Score _____

Ray \$9 stuffed animal toy and \$8 photo frame

Anna \$6 pack of pens and \$4 zoo magnet.

Total \$27

Reflection on Evidence

Discussion Question	Reflections
1. What kinds of evidence were generated by the Smarter Balanced performance tasks?	
2. How is this different from, or similar to, evidence that your own students are accustomed to producing?	