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1 Holiday gifts

A loving grandma wants to send holiday gifts to her three granddaughters (Jessica, Janet and Jocelyn), who live in a different state.

She purchases a combination of gifts:
- A purse (350 g)
- Four stuffed animals: one dog, two penguins and one owl (150 g each)
- A box of candies (550 g)
- A nail polish kit (250 g)
- An outfit, including a dress and hair accessories (650 g).

She wants to distribute all the presents in three boxes of equal weight, one per granddaughter.

a) How much will each box weigh?

b) Decide what grandma should send to each granddaughter.
2 Candy Cane Trail

A Candy Cane Trail is divided into 2 sections and each section is divided into two parts; one red part and one white part.

Sections of candy cane

a. Section 1 is 20 feet long and 30% white.

How many feet are painted red?

b. Section 2 is 40 feet long and 15% white.

How many feet are painted red?

c. Now put your sections together to make your trail.

What percentage of the entire trail is painted red? Make sure to explain how you got your answer...
### 3 Holiday Sales

Juan wants to get a digital camera for his parents. The original price is $100, but luckily several stores have sales during the holidays.

In particular, Juan finds three stores where the camera received a double discount: the price was reduced on Christmas day, and then again on boxing day. The table on the right indicates the sales in each store.

What is the best offer?

Help Juan understands which store has the most convenient offer.

<table>
<thead>
<tr>
<th>Store</th>
<th>1st discount</th>
<th>2nd discount</th>
<th>Final price for the camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>10% off</td>
<td>60% off</td>
<td></td>
</tr>
<tr>
<td>2)</td>
<td>20% off</td>
<td>50% off</td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>30% off</td>
<td>40% off</td>
<td></td>
</tr>
</tbody>
</table>

What is the final sale price of the camera in each store? Fill out the third column of the table.
4 A horse, a camel and an elephant

How much energy do they need to walk?

In the Catholic tradition January 6th celebrates the visit of the Magi who were guided by a star to the city of Belén. So, it is common that in Latin America countries, January 6th is the day that most children receive their gifts brought by the three Kings: Melchor (mounted over a horse), Gaspar (mounted over a camel) and Baltazar (mounted over an elephant).

The journey to Belén is Long. Melchor knows that feeding his horse with 7600 Ca (units of energy) of a pasture bag per day is enough to stay healthy with no movement.

The energy required by the horse to walk 30 minutes is 1/24 of a lunch bag.

a. If the horse consumed a pasture bag at lunch, how long time it will be able to walk?

b. Now imagine that the horse took the same bag for lunch and he walks an hour and a half. How many units of energy will the horse have at the end of the walk?

c. Baltazar elephant needs three times the same amount of food to complete the same journey as the horse. If Melchor takes 5 hours to complete the journey to Belén, how many pasture bags will be needed to feed the elephant?
Sharing the traditional Rosca cake (The Challenge)

Another important and delicious part of the tradition is to share a special kind of cake (called “King’s day ring” or “Rosca Reyes”) with friends. The tradition says we should hide tiny dolls inside the Rosca cake. The person who finds the tiny doll should invite every guest to eat tamale.

On a table there are 5 pieces of Rosca: two have a green cherry on top (and a tiny doll inside), the remaining two have no doll inside.

Three friends, Polita, Pepita, and Pablo, line up (in this order) to get a piece of Rosca. As they line up - Polita first, then Pepita and finally Pablo - they can see the cherry color of the people before them on the line, but not their own. Thus, Pablo can see the color of Polita’s and Pepita’s cherry, while Pepita can only see the color of Polita’s cherry.

We ask Pablo if he can tell the color of his cherry, to which he answers: “No”. We ask the same to Pepita and neither she can answer the question. Finally, Polita analyzes all the possibilities and guessed the color of her cherry correctly.

What is this color of her cherry and what is the logic Polita uses to know?
5 Wrapping presents

Look at the wrapping papers on the left. Only one of them will produce the wrapped present shown above. Which one is it?

Which are the correct wrapping papers?
Challenge: Small block sets

Jose decides to buy three small block sets for his little sister Mary: a fish, a chick and a sheep.

He notices that each set includes three kinds of pieces: an indented square, a circle and an indented circle.

How expensive are the various block pieces?

Jose is told that the three block set have the same price, and that each indented square piece costs 12c.

a. What is the price of an indented circle? 
   Hint: Compare the fish and the sheep.

b. What is the price of a circle?

c. Verify that each lego set has the same price.