

Question 2

BAGGAGE FEES

Chris, Lucas and Anthony are taking a plane together to go on vacation. They have to pay baggage fees.

$$f(x) = a[0.5(x-1)] + k$$

where x : mass of the checked baggage, in kilograms
 y : baggage fees, in dollars (\$)

Information regarding each person's baggage is presented below:

- The mass of Chris' checked baggage is 2.8 kg, and \$5 in baggage fees.
- The mass of Lucas' checked baggage is 14.3 kg, and \$19.40 in baggage fees.
- Anthony pays \$14.60 in baggage fees. *mass?*

If only one person had checked in all of Chris', Lucas' and Anthony's baggage at the same time, what would have been the minimum baggage fees paid?

$$f(x) = a[0.5(x-1)] + k$$

$$f(x) = a[0.5(x-2.8)] + 5$$

$$19.40 = a[0.5(14.3-2.8)] + 5$$

$$19.40 - 5 = a[5.75]$$

$$14.4 = a[5.75]$$

$$14.4 = a \cdot 5$$

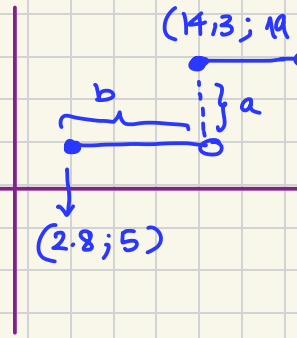
$$\frac{14.4}{5} = a$$

$$2.88 = a$$

$$f(x):$$

$$\frac{1}{|b|} : 0.15$$

$$b : 2$$



1 kg → ? \$
2.8 kg → 5 \$

14.3 kg → 19.40 \$

Question 2

Chris is Biana's and Daniel's father. To reward them for doing their chores, Chris gives them tokens that they can trade in for money at the end of the month.

To determine the value of the reward that Biana and Daniel earn when they trade in their tokens, Chris uses function f described below.

?

$$f(x) = 4 \left[\frac{1}{10}(x-1) \right] + k$$

where x : the number of tokens traded in
 $f(x)$: the value of the reward, in dollars

Last month:

- Biana had 53 tokens that she traded in for a reward of \$24
- Daniel traded in his tokens for a reward of \$32
- If Biana and Daniel had combined their tokens, they would have traded them in for a reward of \$52

What are the possible number of tokens that Daniel earned last month?

① Find k $32 = 4 \left[\frac{1}{10}(x-1) \right] + k$

$$24 = 4 \left[\frac{1}{10}(53-1) \right] + k$$

$$24 = 4 \left[\frac{1}{10}(52) \right] + k$$

$$24 = 4(5.2) + k$$

$$24 = 4(5) + k$$

$$24 = 20 + k$$

$$k = 4$$

② Daniel

$$32 = 4 \left[\frac{1}{10}(x-1) \right] + 4$$

$$28 = 4 \left[\frac{1}{10}(x-1) \right]$$

$$7 = \left[\frac{1}{10}(x-1) \right]$$

$$7 \leq \frac{1}{10}(x-1) < 8$$

$$7 \leq \frac{1}{10}(x-1) \quad \left| \begin{array}{l} \frac{1}{10}(x-1) < 8 \\ (x-1) < 80 \end{array} \right.$$

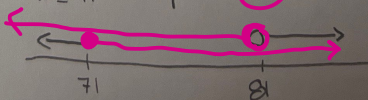
$$70 \leq x-1$$

$$71 \leq x$$

$$x \geq 71$$

$$x \leq 81$$

$$x < 81$$



$[71, 81)$

PEMDAS

Bianca: (53, 24)

2)

$$32: 4 \left[\frac{1}{10} (x-1) \right] + 4$$

$$\frac{32-4}{4} \div \left[\frac{1}{10} (x-1) \right] + 4$$

$$7 \leq \frac{1}{10} (x-1) < 7+1$$

$$70 \leq x-1 < 80$$

$$70+1 \leq x < 80+1$$

$$71 \leq x < 81$$



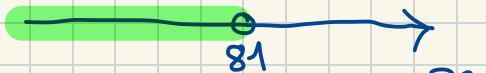
a) $71 \leq x$

$$x \geq 71$$



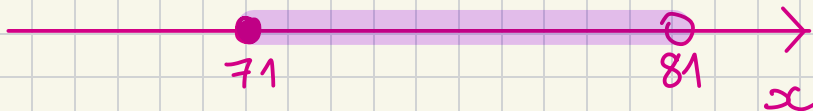
$$[71, +\infty[$$

b) $x < 81$



numbers in between x

$$[71, 81[$$



71

81

x

$$53 + x : 52 \$$$

quelle sont
le nombre de
jettons reçus
le mois dernier?

$$f(x) : 4 \left[\frac{1}{10} (x-1) \right] + k$$

1) Trouver la règle standard ?

$$24 : 4 \left[\frac{1}{10} (53-1) \right] + k$$

$$24 : 4 \left[\frac{1}{10} (53-1) \right] + k$$



$$[5 \cdot 2] = 5$$

$$24 : 4(5) + k$$

$$24 : 20 + k$$

$$24 - 20 : k$$

$$4 : k$$

$$3) \quad 53 + x = 52 \$$$

$$\Downarrow$$

$$24 \$ + ? = 52 \$$$

$$52 - 24 = 28 \$$$

$$28 - 4 \left[\frac{1}{10} (x - 1) \right] + 4$$

$$\frac{28 - 4}{4} : \left[\frac{1}{10} (x - 1) \right]$$

$$6 \leq \frac{1}{10} (x - 1) < 6 + 1$$

$$60 \leq \frac{1}{10} (x - 1) < 70$$

$$60 \leq (x - 1) < 70$$

$$61 \leq x < 71 \rightarrow [61, 71[$$

$$x \geq 61$$

numbers in between
61, 62, 63, 64, 65, 66, 67, 68, 69, 70

