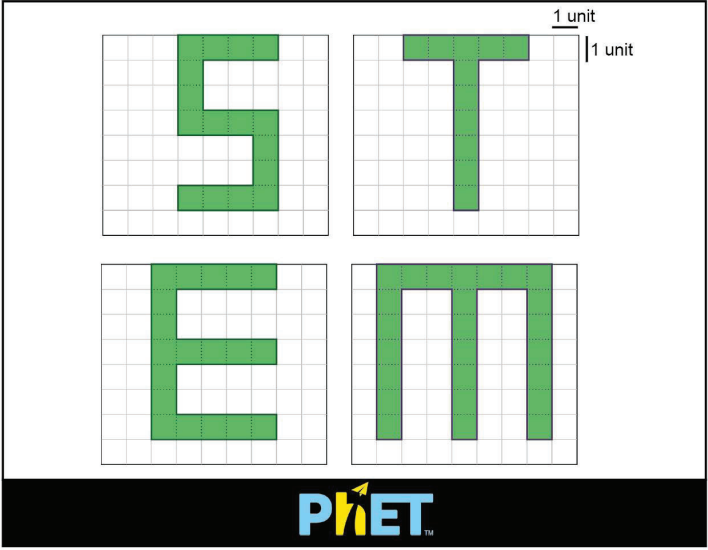


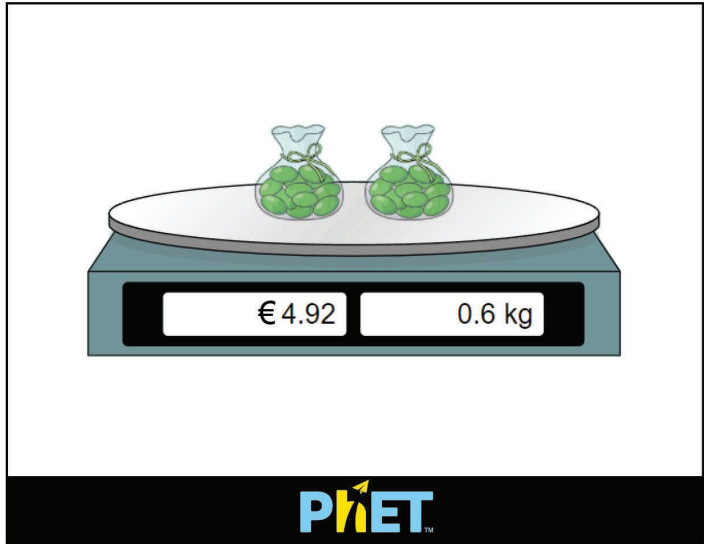
$a + b = ?$

- A) 62
- B) 67
- C) 70
- D) 73



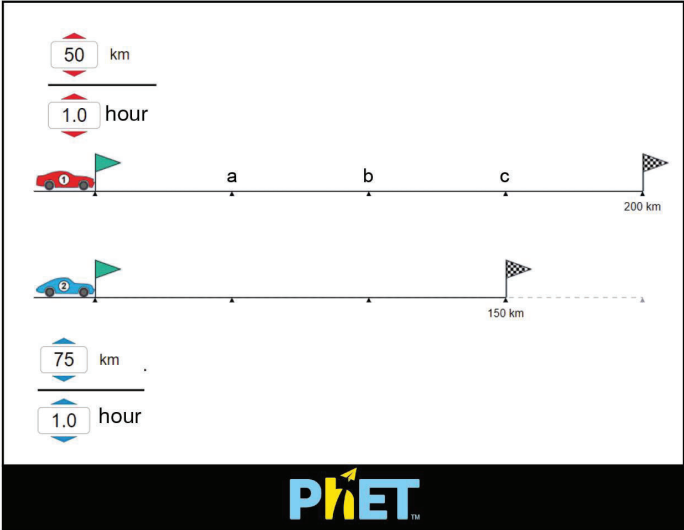
Which of the letters S, T, E, or M has the greatest ratio of its perimeter to its area?

- A) S
- B) T
- C) E
- D) M



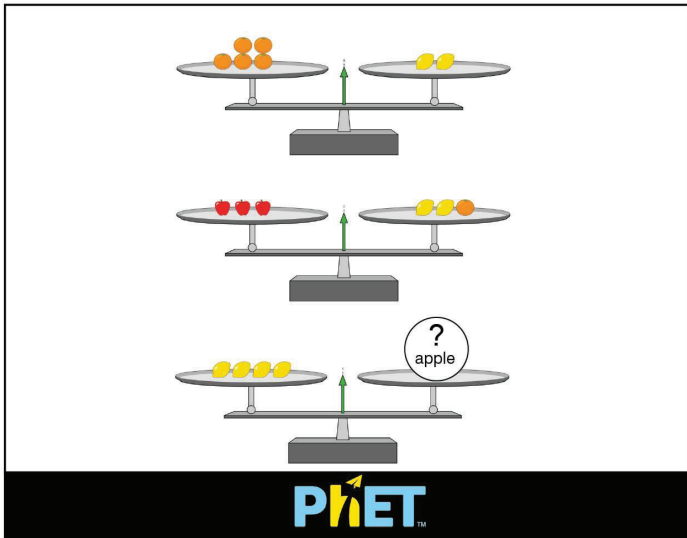
Two packages of sugar weigh 0.6 kg and cost 4.92 euros. If you buy 1.8 kg of sugar, how much will you pay and how many packages will you get?

- A) 6 packages - 14.76 €
- B) 6 packages - 29.52 €
- C) 3 packages - 14.76 €
- D) 9 packages - 29.52 €



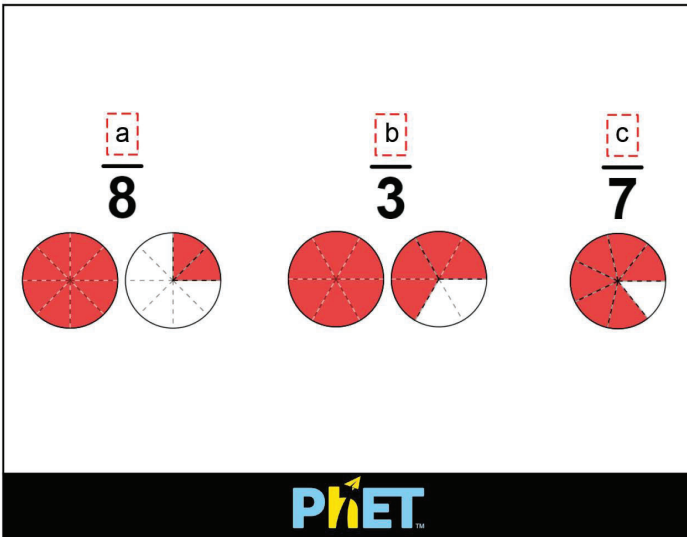
What is the position of red when the blue car, traveling 75 km per hour, reaches the finish line?

- A) point a
- B) between a and b
- C) point b
- D) between b and c



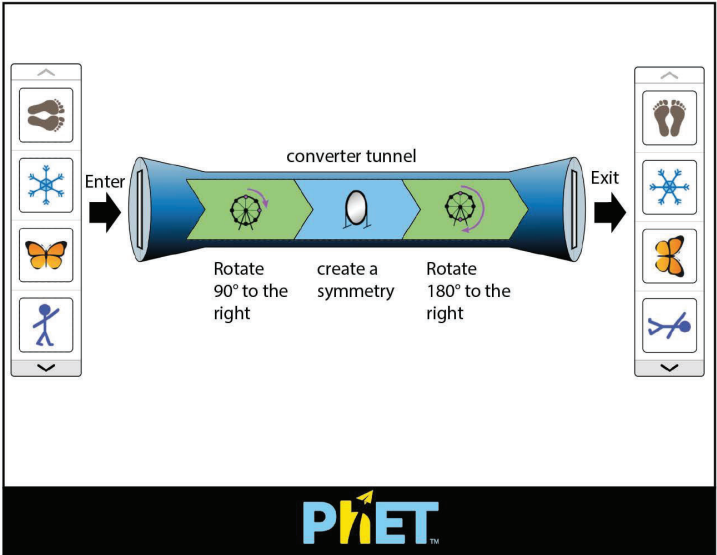
How many apples are needed to balance the scale?

- A) 4                      B) 5                      C) 6                      D) 7







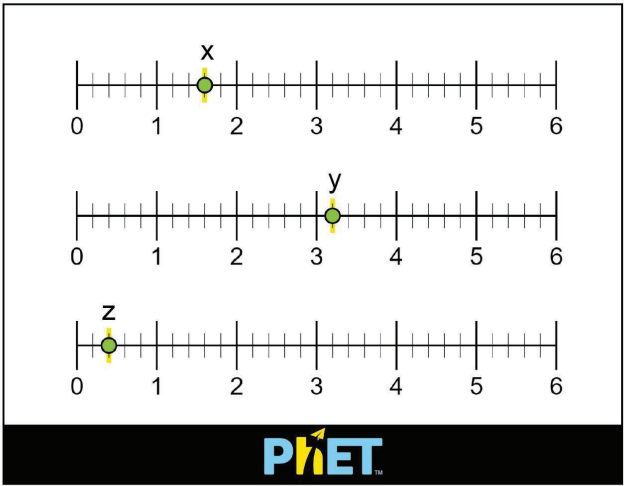
According to the given figure what is the value of  $(a \div b) + c$ ?

- A) 7                      B) 8                      C) 9                      D) 10

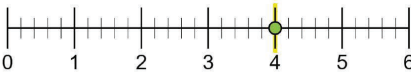
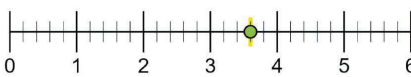
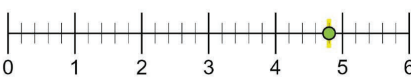
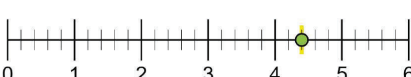


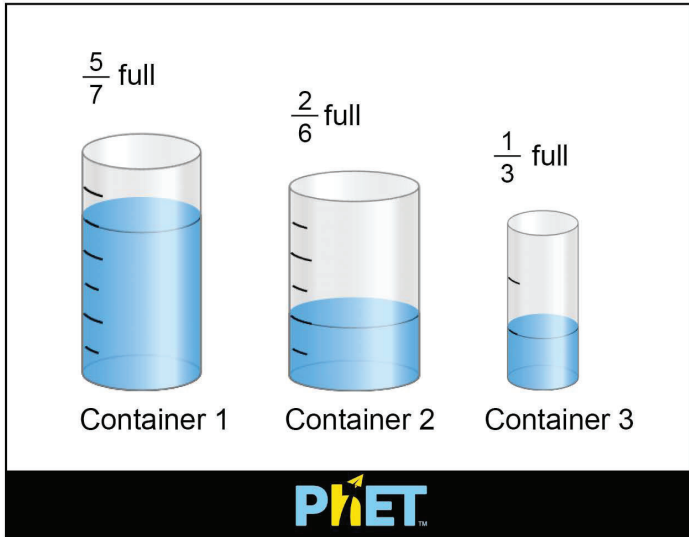
Which figure is converted wrong from the tunnel?

- A)                       B) 
- C)                       D) 



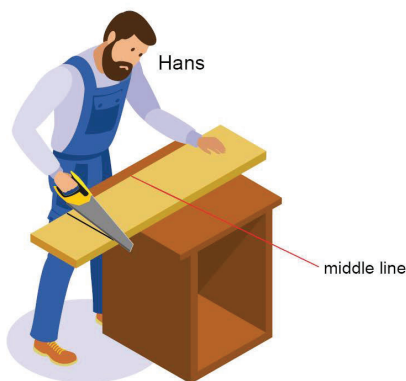
The numbers x, y, and z are shown on the number line. Which of the following is equal to the result of  $x + y - z$ ?

- A)                       B) 
- C)                       D) 



From the 1<sup>st</sup> container, if 20ml of water is transferred to the 2<sup>nd</sup> container, and 10 ml of water is transferred to the 3<sup>rd</sup> container all the containers become half full. How many milliliters of water do they take when the containers are full?

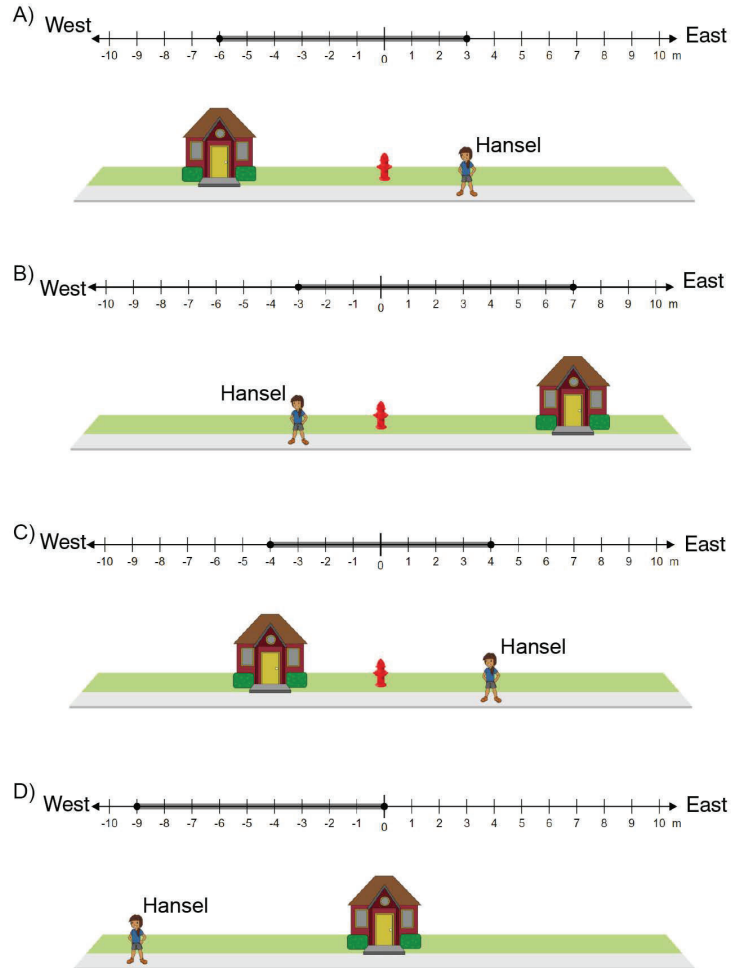
- A) 1<sup>st</sup> container 140 ml, 2<sup>nd</sup> container 100 ml, 3<sup>rd</sup> container 80 ml.  
 B) 1<sup>st</sup> container 120 ml, 2<sup>nd</sup> container 100 ml, 3<sup>rd</sup> container 60 ml.  
 C) 1<sup>st</sup> container 140 ml, 2<sup>nd</sup> container 120 ml, 3<sup>rd</sup> container 60 ml.  
 D) 1<sup>st</sup> container 120 ml, 2<sup>nd</sup> container 120 ml, 3<sup>rd</sup> container 40 ml.



Hans cuts off one-fifth of a board. Then, he realizes that the middle line of the board has shifted 14 cm compared to the first situation. What is the length of the board after cutting?

- A) 82      B) 112      C) 140      D) 180

In which picture is Hansel standing farthest from the house?

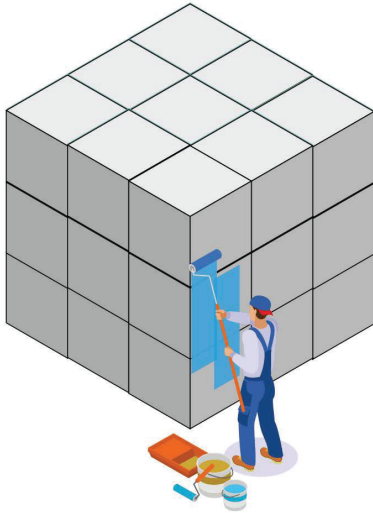


The number of balloons of four classmates are given above.

- Tom has fewer balloons than Victor.
- Mary has more balloons than Victor.
- Peter has the most balloons.

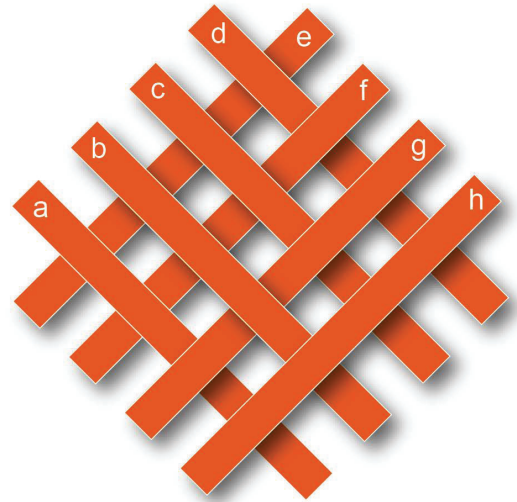
How many balloons does Mary have?

- A) 2      B) 3      C) 5      D) 7



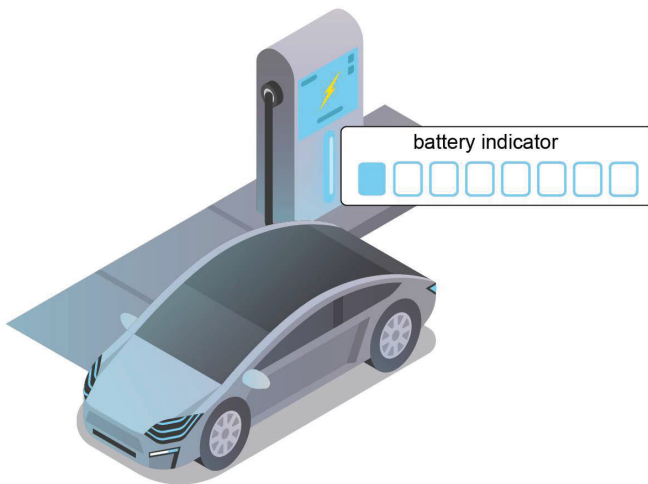
Alexander paints a large cube in blue formed by combining 27 small cubes and fixing to the ground. How many of the small cubes will have at least two faces painted in blue?

- A) 13      B) 14      C) 15      D) 16



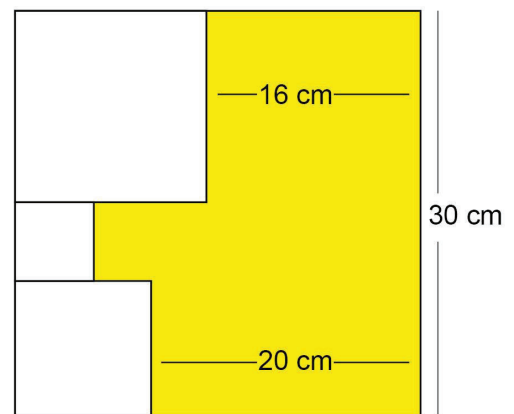
The above figure is obtained by placing the orange strips on top of each other. What are the stripes in the 3<sup>rd</sup> order from the top and from the bottom?

- A) d-g      B) a-f      C) a-g      D) f-g



Thomas starts driving his electric car with fully charged battery and stops to recharge after driving 154 km. When he plugs the car into the charger, the indicator shows the battery level as seen in the figure. If he charges the battery half-full, how many more kilometers can Thomas drive?

- A) 78      B) 88      C) 98      D) 108



Three squares are drawn inside the large square as seen in the picture. What is the perimeter of the yellow region?

- A) 96      B) 102      C) 108      D) 114



Clara bought 4 kg of pineapple 7 euros per kg and 3 kg of bananas 1 euro per kg from the market. On the way back home, she saw the prices are different on the street seller as given in the picture. Which of the following would be correct if she had bought same amount of fruit from the street seller?

- A) Clara would lose 3 euros.
- B) Clara would save 5 euros.
- C) Clara would save 8 euros.
- D) Clara would pay the same.

$$\begin{array}{cccc}
 \text{S} & \text{T} & \text{E} & \text{M} \\
 + & 2 & 0 & 2 & 2 \\
 \hline
 a & b & c & d
 \end{array}$$

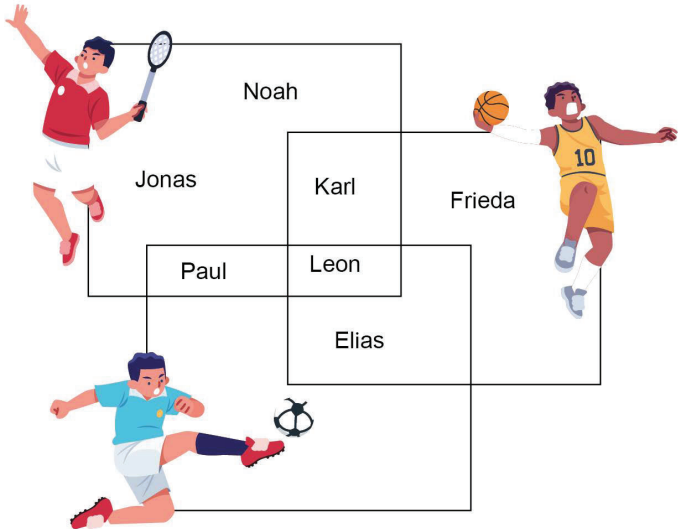
Each letter of the word STEM represents one of the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9. If the word STEM is the smallest number which is divisible by 6 and 9, what is the value of  $a + b + c + d$ ?

- A) 6
- B) 7
- C) 8
- D) 9



Hans and Tim are friends at work and one day they meet at the gym after work. If Hans goes to the gym every 4 days and Tim goes every 5 days, after how many days will they meet again in the gym?

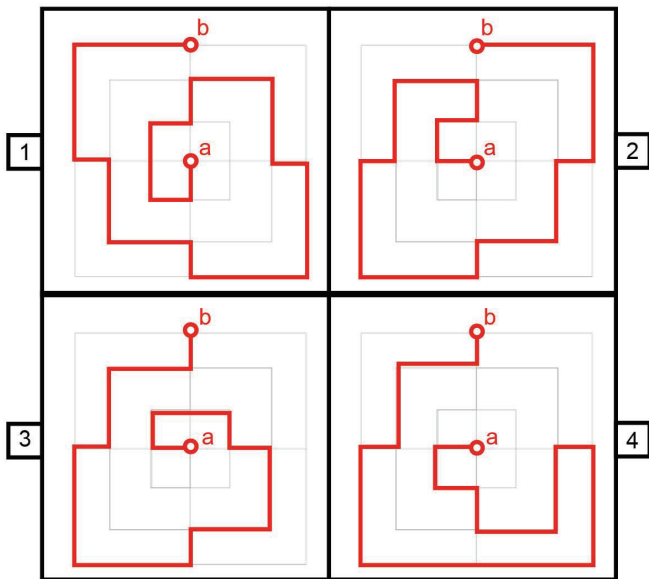
- A) 16
- B) 17
- C) 18
- D) 20



Which of the students does not play in football team while playing in tennis and basketball teams?

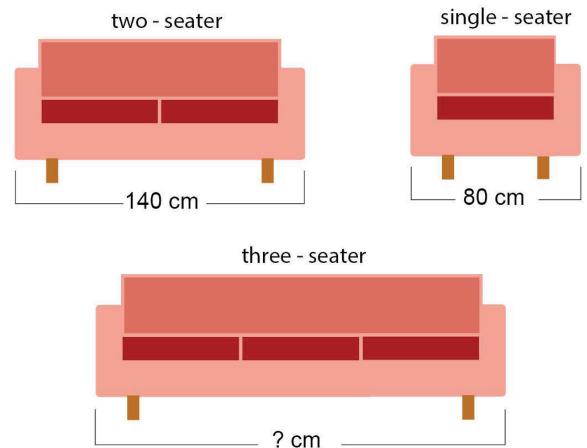
- A) Paul
- B) Leon
- C) Elias
- D) Karl





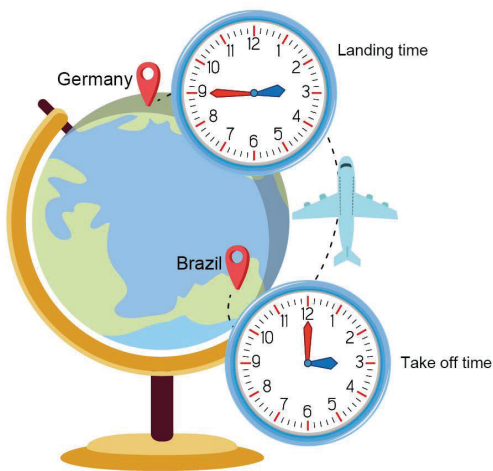
Which of the four different routes from a to b is the shortest?

- A) 1      B) 2      C) 3      D) 4



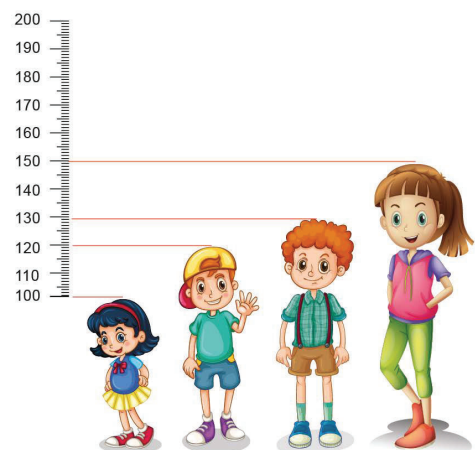
Three sofas are produced from identical cushions and same size arm rests as seen in the figure. What is the length of the triple sofa?

- A) 180      B) 200      C) 220      D) 240



Departing from Brazil for the International STEM Olympiads, Gabriel wants to calculate duration of his journey and records the time on his watch during takeoff and landing. How long did Gabriel's travel take?

- A) 15 minutes      B) 11 hours 15 minutes  
C) 11 hours 45 minutes      D) 12 hours 45 minutes



The heights of four children are shown above. When their father is included, average of their age becomes 135 cm. What is the father's height?

- A) 165      B) 175      C) 185      D) 195



Dairy farm



Milk market

Emily owns a market selling milk in the city. She buys the milk from a dairy farm for 3 euros per liter. What is the sale price of the milk per liter at her market if she makes 50% profit?

A) 3 euro 50 cent

B) 4 euro

C) 4 euro 50 cent

D) 5 euro