VISIT MATH

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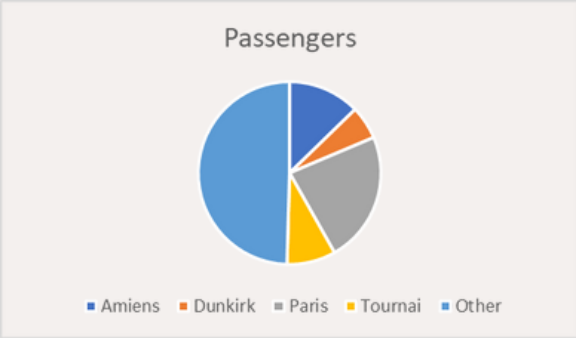
Answers

Step 1: Warm-up

60 274 passengers travel each day, 7 671 go to Amiens, 13 973 go to Paris, 3 562 go to Dunkirk, 5 205 go to Tournai, 29 863 travel to other destinations.



23% of all passengers go to Paris.
There is a 0,09 chance of picking someone from Tournai, a 0,01 chance of picking three people from Paris, and a 0,0009 chance to pick one person from Dunkirk and two from Amiens.

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Step 2: Stroll on the Grand Place

The column without the base is about 8 meters high and 1,5 meters wide.
Its total height (with base + statue) is about 20m.
Its volume is $V = \pi * 1{,}5^2 * 8 = 56{,}52\ m^3$.

Step 3: The old Chamber of commerce

AB = CD = 3
Since the angle is 45°, cos (45) = 3 / BC
BC = 3/cos(45)
BC = 4,24

The dancers start in the middle of the room, so they have 15/2= 7,5 and 21/2= 10,5 meters to move. BC is 4,24 meters long. They have enough room to dance.

If AB was 6 meters long, they would need to be careful about their positioning in the room, but they could still dance!

Step 4: The cobblestones of the old town

The 3 cm gap means that you have to enlarge all cobblestones by 3 cm. Therefore, all cobblestones measure 18x13 cm.

Two streets are 1km long and 15 meters wide: 100.000/18 = 5.555 ; 1.500/13 = 115,38 ; 115,38 x 5.555 = 640.936 ; 638.825 x 2 = 1.281.872. There are 1.281.872 cobblestones on these two streets alone.

One street is 1,5 km long and 20 m wide: 150.000/18 = 8.333 ; 2.000/13 = 154 ; 8.333 * 154 = 1.283.282. There are 1.283.282 cobblestones on this street.

There are ten 250x10m streets: 25.000/18 = 1.389 ; 1000/13 = 77 ; 1.389 x 77 = 106.953 ; 106.953 x 10 = 1.069.530. There are 1.069.530 cobblestones on these streets.

The square has 100 m sides. 10.000/18 = 556 ; 10.000/13 = 769 ; 556 * 769 = 427.564. There are 427.764 cobblestones on this square.

We need to add 50% to the total amount of cobblestones to estimate the number of cobblestones in the old town: 6.093.372 cobblestones in total.

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Step 5: Rest on the grounds of the first squares

The medians cross around the group of trees on the Louise de Bettignies square. Aim for the tree on Lion d'Or Square. Going 2/3 of the distance leads to n°34. 1*1 = 1 ; 4*5 = 20. 1-20 = -19. 34-19 = 15. We're looking for house n°15.

Step 6: The lost bells of the cathedral

The lines cross on (10;4). When facing the cathedral, this points to the Saint Nicolas belltower, on the right of the cathedral, where the bells are.

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Project code: 2022-1-FR01-KA220-SCH-000090275