

Tommy's Cross Globe Tour



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Tommy, a 17 year old boy who lived in Chicago, won a contest to visit 3 major cities of his choice around the world. Tommy chose New York City, London, and Paris to visit.



Tommy flew out from Chicago to his first destination in New York City. Once in New York City, he decided to check out the overall shape of the city. Tommy realized that New York City was rectangular.



New York City

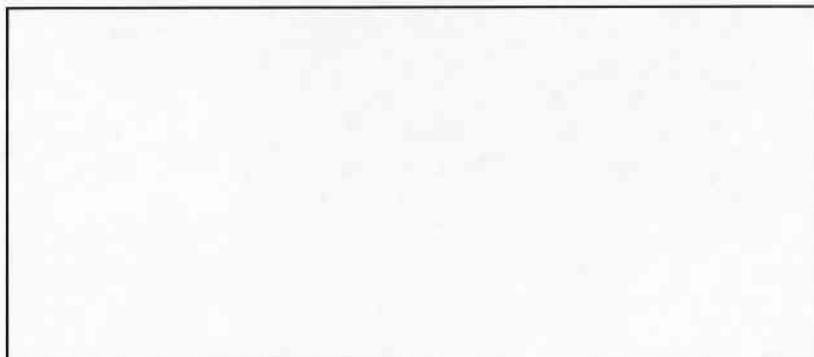
He wanted to take a walk around the city. From the most southwestern point of the city, Tommy walked 10 miles east, and from the most southeastern part of the city, Tommy walked north 5 miles. Tommy figured out that if he walked every square mile of the city that he would walk 50 square miles. He found this out by using the formula for finding the area of a rectangle, which is base multiplied by height ($b \cdot h$).



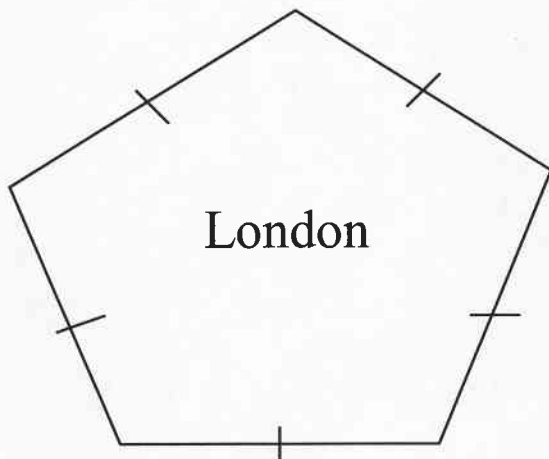
Tommy then wanted to just see how far it was to just walk around the outside of the city. He remembered that the opposite sides of a rectangle are congruent, so he knew that there were two sides of 10 miles and two sides of 5 miles. Tommy then added all the sides up and figured that if he walked the perimeter of the city, he would walk a total of 30 miles.

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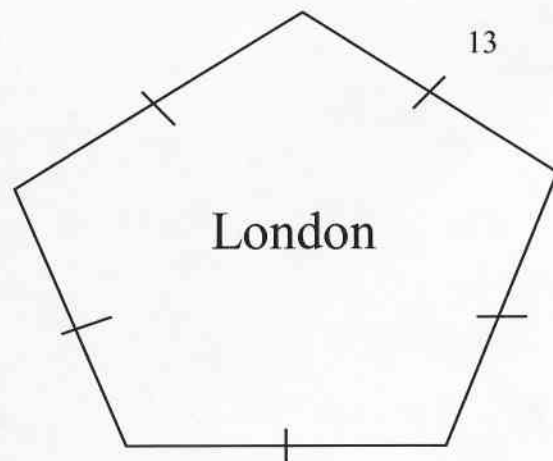
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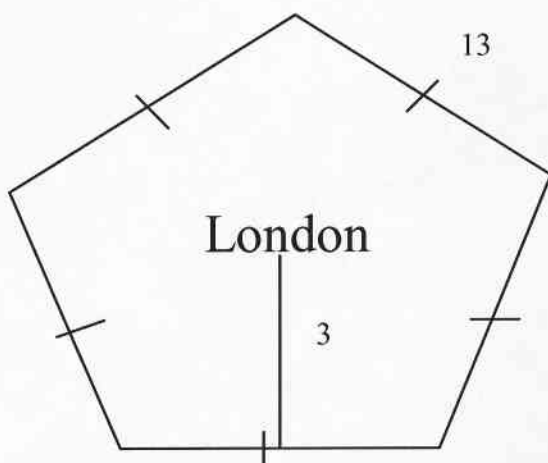
Tommy's next destination was London, England. When Tommy was above London, he saw that London was a regular pentagonal shape. He knew that since it was a regular pentagon, all the edges of the city were equal.



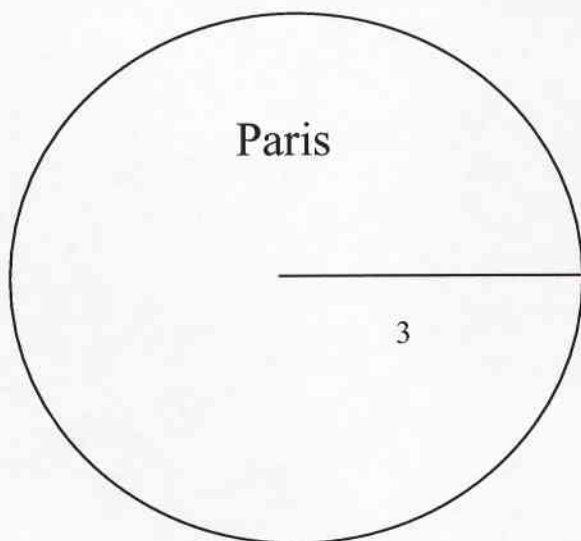
He then decided to bike one edge of the city and he calculated that the distance he traveled was 4 miles. He knew since London was a rectangular pentagon, that all the edges were the same, so Tommy multiplied 13 by 5 and figured that the distance of London's perimeter was 20 miles.



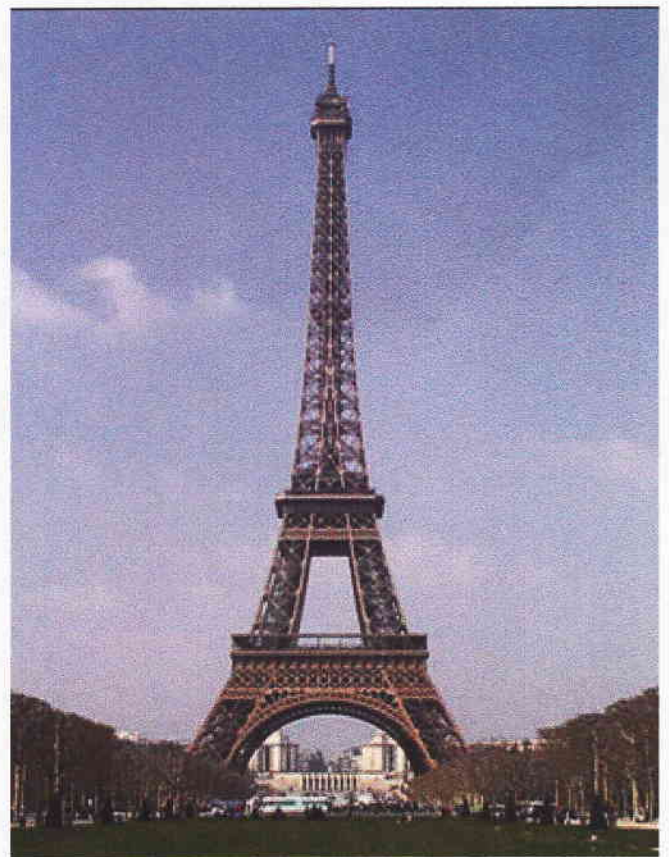
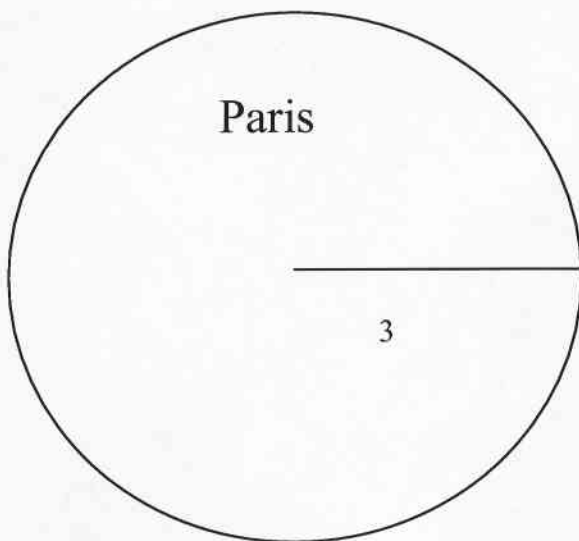
Tommy already knew the perimeter of London, so now he needed to find the area. He knew that from a previous geometry class he had taken that the formula for the area of a regular pentagon was $\frac{1}{2}$ multiplied by the perimeter multiplied by the apothem. He then had to walk from the center of London to one of the middle of the edges to find the apothem and found that the apothem was 3. He then did the math and calculated that the area of London was 30 square miles.



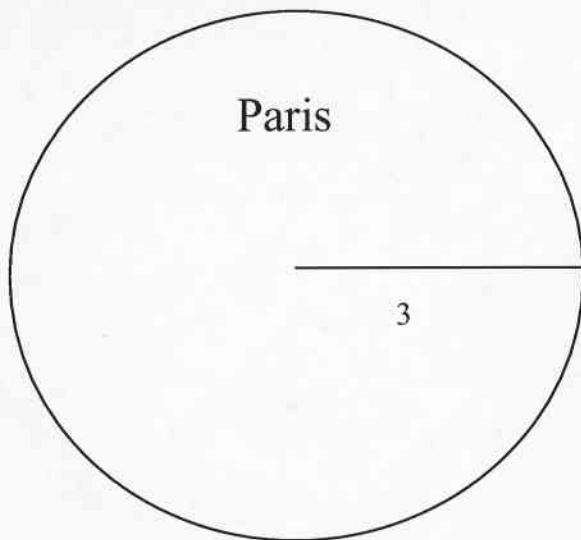
The last city Tommy visited was Paris, France. Once there, Tommy was escorted around the city by a tour guide provided for him as part of the contest. The escort informed Tommy that the shape of Paris was a circle. Tommy knew that circles didn't have perimeters, they had circumferences. Tommy knew that the formula for the circumference of a circle was 2 multiplied by the radius multiplied by pi. Tommy then drove the radius of the Paris which ended up being 3. Tommy then plugged 3 into the formula and got the circumference of Paris which was 6 multiplied by pi.



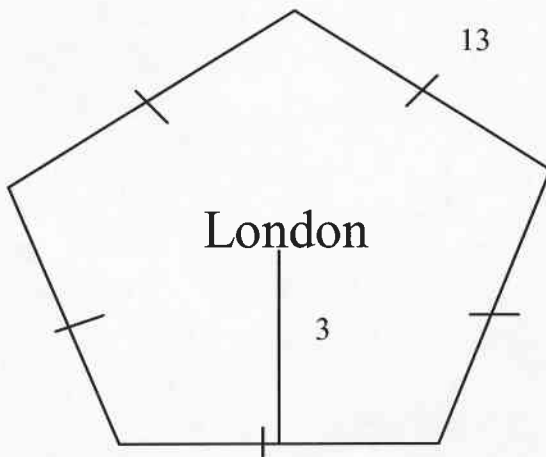
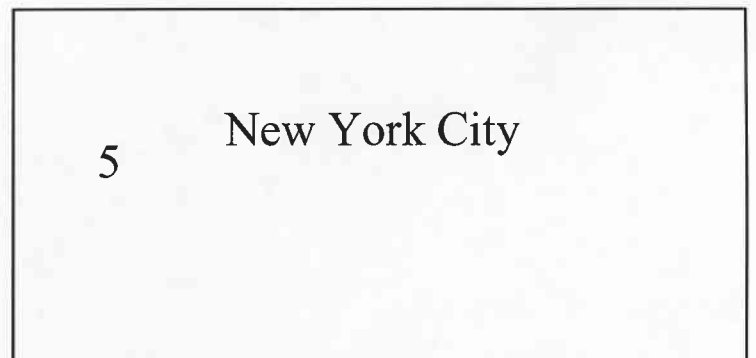
Tommy also knew the formula for the area of a circle. It was pi multiplied by radius squared. Since Tommy already knew the radius he just stuck it right into the formula and squared it, which gave him the area of the circle, which was 9 multiplied by pi miles squared.



Tommy then decided to add up all the areas of the cities he had been to see how much exercise he had done and how many square miles he visited. The equation was 30 square miles plus 30 square miles plus 9 pi. The sum of the areas was 60 square miles plus 9 pi square miles.



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Tommy then returned home to tell his family about his tour and all the calculating and math he had done. His family was so proud that they threw him a party and he had cake and ice cream, and he invited all of his friends.



Then Godzilla came and stole Tommy's cake and ice cream. Then Tommy cried and Godzilla felt bad so he ate Tommy with the cake and ice cream so Tommy could be with the cake and ice cream inside of Godzilla's tummy.

