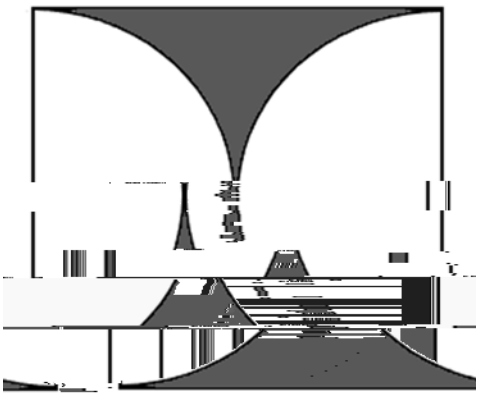
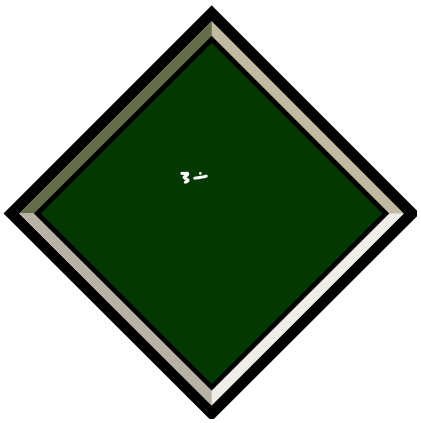
ROUND #1

University of North Georgia
Mathematics Tournament
April 6, 2019

The area of the black region is 9 2.25 square meters. A square circumscribes the two congruent semi-circles. What is the perimeter of the square?

Give an exact answer.





ROUND #4

University of North Georgia
Mathematics Tournament
April 6, 2019

) L Q G W K H V X P VRRR OD XO WOL RL Q W HWJRH UW K H L Q H T X D

O R Jx OxR J d

, I \R X Q H H G W K L V G R F X P H Q W L Q D QNR W#KXHQJ IRG R DRU SDOHD V H H P D

ROUND #5

University of North Georgia
Mathematics Tournament
April 6, 2019

Bobby's pizza claims that it stocks enough topping ingredients so that you can order a pizza with a different combination of up to 3 ingredients every night for 5 consecutive years. What is the least number of topping ingredients that must be available to make this claim true?

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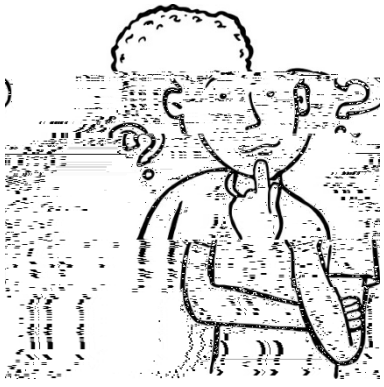
ROUND #6

University of North Georgia
Mathematics Tournament
April 6, 2019

Of 200 families surveyed, each family owned either a car, a motorcycle, or both. Half of the 150 families who owned a car also owned a motorcycle. How many of the people surveyed owned a motorcycle?



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ROUND #8

University of North Georgia
Mathematics Tournament
April 6, 2019

Zach eats ice cream in a right circular cone with an opening of radius 5 and a height of 10. If Zach's ice cream scoops are always perfectly spherical, find the radius of the largest scoop he can get such that at least half of the scoop is contained within the cone. Give an exact answer.

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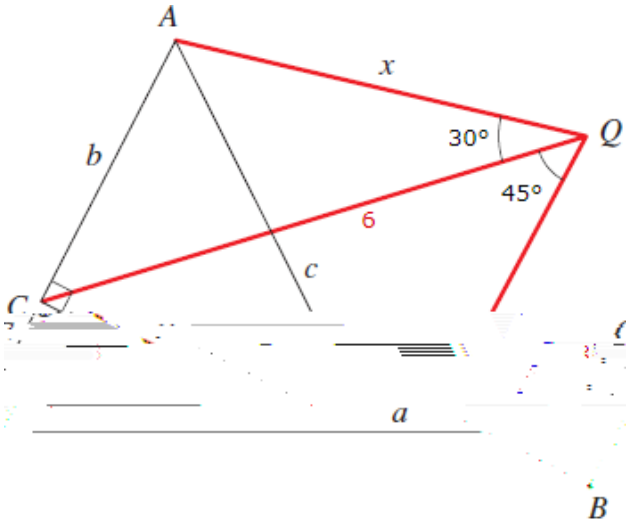
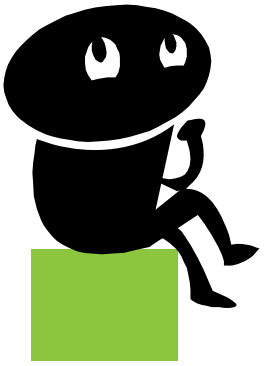
ROUND #9

University of North Georgia
Mathematics Tournament
April 6, 2019

In the figure, triangle ABC is a right triangle, $CQ \quad 6$, and $BQ \quad 8$.

Also, $\qquad 30$





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