



Name _____ Class _____ Date _____

Galileo is looking to buy several new car yards as his current businesses are doing very well. He has seen a number of car yards that he is interested in.

He has learned from experience that a good car yard has a wide range of cars to choose from so he will be looking for a yard that will hold a large number of cars.

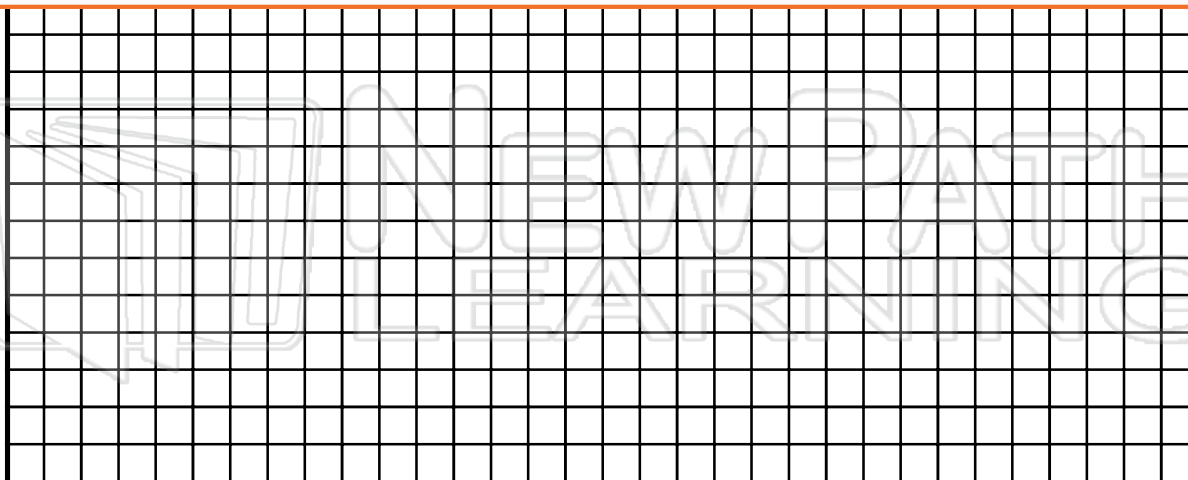
In the past Galileo has noted that cars placed along the edges of the car yard have sold much better than cars squashed up like sardines in rows.

1. When choosing his new car yards should Galileo be more concerned about the area or perimeter of the yard? Why?
2. Galileo has seen five car yards for sale. Each has an area of 2400 m^2 , however they all have different perimeter lengths. List six sets of rectangular dimensions (L x W) that have this area:
For example: $120 \text{ m} \times 20 \text{ m}$



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1. Calculate the largest perimeter possible for a shape that has an area of 2400 m². Draw your shape here giving dimensions for the length of each side.

2. Galileo can park three cars every ten meters and he usually uses the inside area of a yard for his showroom and office. Assuming he has five sports cars in his showroom, how many cars will Galileo be able to display in each of the car yards below:

a)  20 m

Show your work here:



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Challenge:

What is the maximum number of cars Galileo can have on display if the area of the car yard is 2,400 m² and he only has cars along the perimeter of the yard? Assume he can only have five cars in the showroom and still fits three cars every ten meters. Don't forget to leave enough room for the showroom. Compare your answers with other students and check the area equals 2,400 m².



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He has learned from experience that a good car yard has a wide range of cars to choose from so he will be looking for a yard that will hold a large number of cars.

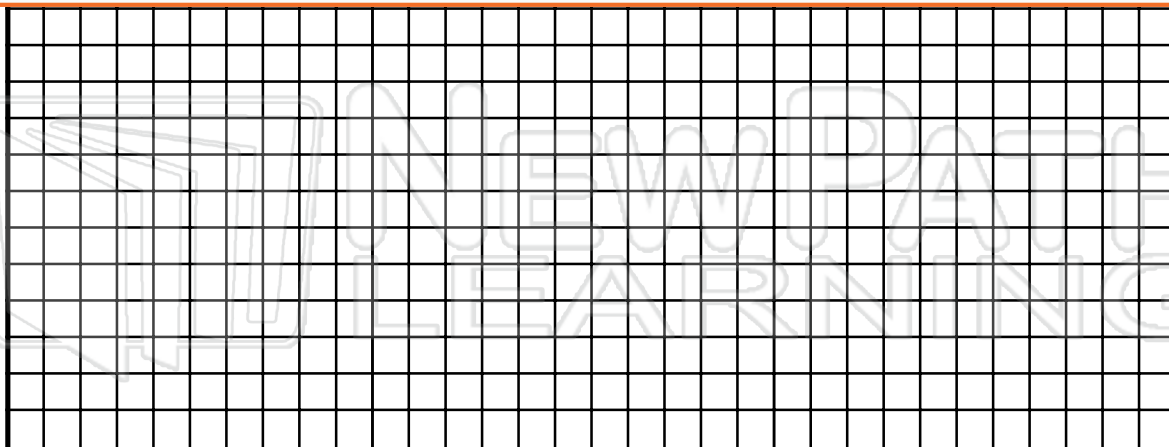
In the past Galileo has noted that cars placed along the edges of the car yard have sold much better than cars squashed up like sardines in rows.

- When choosing his new car yards should Galileo be more concerned about the area or perimeter of the yard? Why? ...Galileo should be concerned about the length of the perimeter. A long perimeter will mean more cars can be placed around the edges and less space inside will be wasted.
- Galileo has seen five car yards for sale. Each has an area of 2400 m^2 , however they all have different perimeter lengths. List six sets of rectangular dimensions (L x W) that have this area:
For example: 120 m x 20 m.

3

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Answers will vary.



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- Calculate the largest perimeter possible for a shape that has an area of 2400 m². Draw your shape here giving dimensions for the length of each side.

Answers will vary.

- Galileo can park three cars every ten meters and he usually uses the inside area of a yard for his showroom and office. Assuming he has five sports cars in his showroom, how many cars will Galileo be able to display in each of the car yards below:

a)



20 m

Show your work here:

a) 71 cars

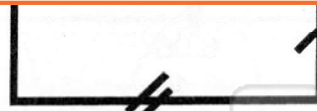
b) 65 cars



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20 m



40 m

Challenge:

What is the maximum number of cars Galileo can have on display if the area of the car yard is 2,400 m² and he only has cars along the perimeter of the yard? Assume he can only have five cars in the showroom and still fits three cars every ten meters. Don't forget to leave enough room for the showroom. Compare your answers with other students and check the area equals 2,400 m².

Galileo could have an L shaped car yard. Total perimeter is 420 m and this would allow 126 cars in the yard. Together with the 5 cars in the showroom, the total number is 131 cars.