

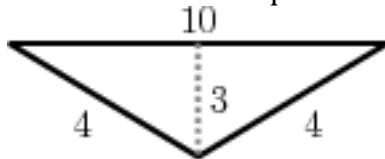
Name _____

Area Assessment – Team Challenge

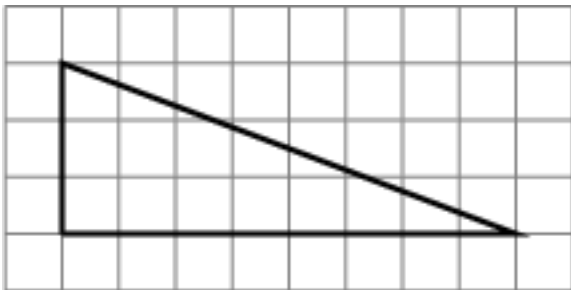
1. Elias and his dad are painting a wall in their basement. The wall is 18 feet long and 9 feet tall. They are trying to figure out how much paint to buy. What is the area that they need to cover?

2. By what number is the area of a square multiplied if the side is multiplied by 2? If the side is multiplied by 3? By 10?

3. Find the area and perimeter of the triangle.

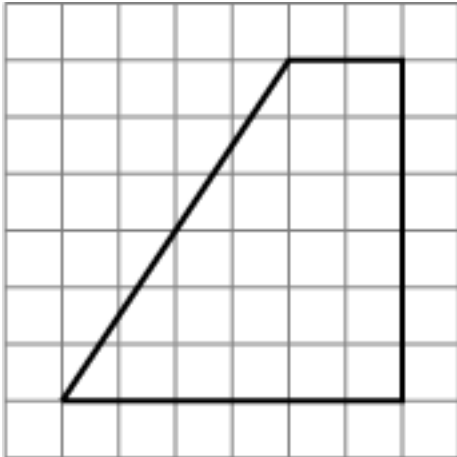


4. What is the area of triangle ABC? Show your work and explain why your process works.

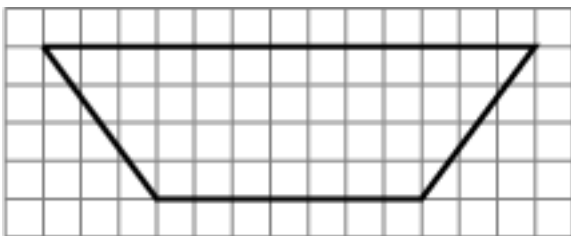


5. Ms. Yarnell's art class is making a mosaic to cover an ugly concrete wall along a highway off-ramp. The wall forms a right triangle with a base of 42 feet and a height of 12 feet. What area will the class need to cover?

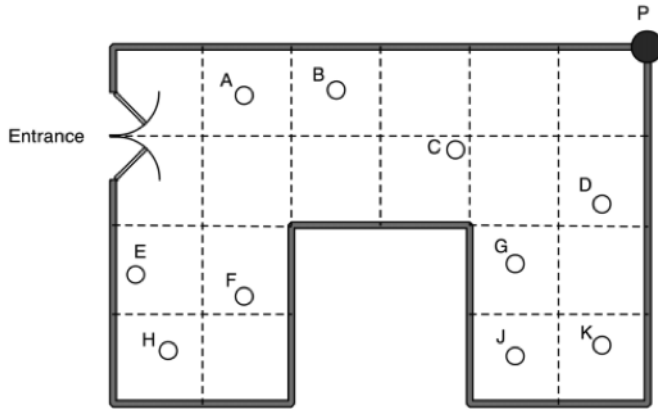
6. Mr. Kemp is an aerospace engineer working on the design of Boeing's new aircraft. He is ordering titanium for the rear fin of the aircraft, which has the dimensions of the figure below (1 unit = 1 meter). How many square meters of titanium will be needed for the rear fin?



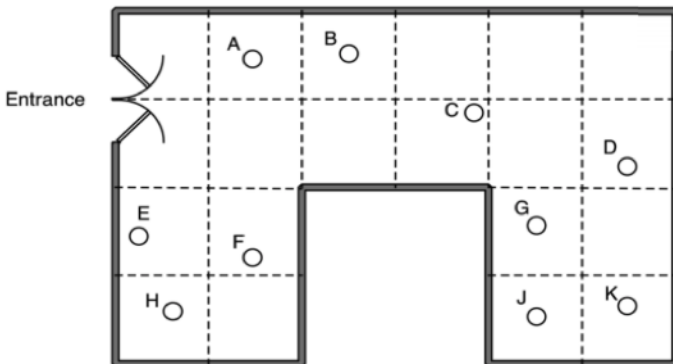
7. Ms. Hathaway is an architect. Her client has requested a trapezoidal balcony with the dimensions of the figure below (1 unit = 1 foot). Ms. Hathaway needs to calculate the area of the balcony to figure out exactly how much material to order. Find the area of Ms. Hathaway's balcony.



8. A shop owner wants to prevent shoplifting. He decides to install a security camera on the ceiling of his shop. The camera can turn right round through 360 degrees in all directions. The shop owner places the camera at point P, in the corner of the shop. The plan view below shows where ten people are standing in the shop. Plan view of the shop:



- Which people in the shop cannot be seen by the camera at P? Explain your answer, showing clearly on the diagram how you know.
- The shop owner says, "15% of the shop is hidden from the camera." Show clearly that he is correct.
- The shop owner decides to move the camera so that it can see as much of the shop as possible.
 - On the plan view below show the best place for the camera so that it can see as much of the shop as possible.



- Explain how you know that this is the best place for the camera. What percentage of the shop cannot be seen with the camera in this new position?