Problem of the Week

For this week's problem, I have focused on measurement. I have noticed that students have difficulty with area, perimeter, and volume, and will often mix them up.

These tasks were designed to determine how much your students can recall and apply about their previous learning. As always, I will provide opportunities for primary, elementary and secondary.

Be mindful that during these prompts, it is important the teacher listens to student conversations and asks questions that illicit student thinking.

Primary	Kat and Kris were each given a string and asked to make a rectangle. Their two strings were different lengths. Kat said that her rectangle had a perimeter that was 20 cm greater than Kris' rectangle. What lengths of string could Kat and Kris have been given?
An extension could be to provide a range in the difference in perimeters. For example, the prompt could have stated that the perimeter of Kris' rectangle was 10 - 15 cm less than the perimeter of Kat's rectangle.	

Elementary	Kat and Kris were each given a string and asked to make a rectangle. Their two strings were different lengths. Kat said that her rectangle had an area that was 30 cm^2 greater than Kris' rectangle. What lengths of string could Kat and Kris have been given?
An extension could be to provide a range in the difference in areas. For example, the prompt could have stated that the area of Kris' rectangle was 20 – 30 cm^2 less than the area of Kat's rectangle.	

Intermediate	Kat and Kris each created a rectangular prism. Each of their rectangular prisms had different dimensions. Kat said that her rectangular prism had a surface area that was between 20 cm^2 and 30 cm^2 greater than Kris' rectangular prism. What are possible dimensions of Kat's and Kris' rectangular prisms?
An extension could be to provide an exact difference in surface areas instead of a range. For example, the prompt could have stated that the surface area of Kat's rectangular prism was 20 cm^2 greater than the surface area of Kris' rectangular prism.	