Oink-Oink - Piggie Pens

You have already taken part in building a wee 'piggie pen' – see picture below.

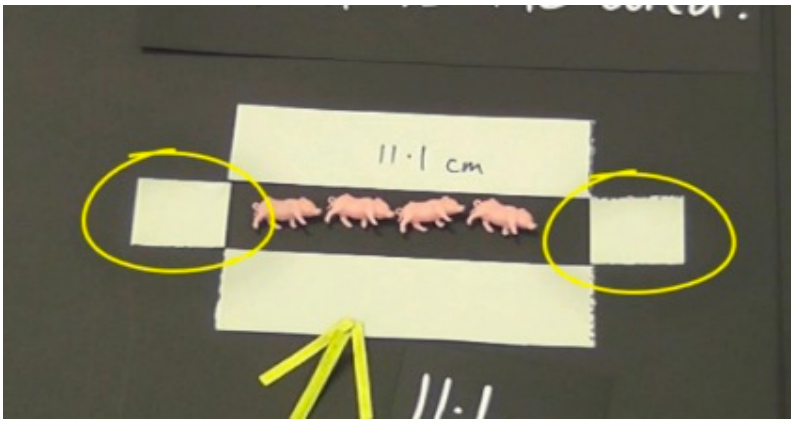


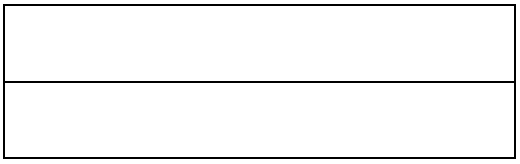
Figure 1: Piggies from the movie.

Sometimes, one pen is just not enough for the number of piggies!

Figure 2: Piggies not from the movie.

Task 1 (work in groups of 2 or 3 for this task)

Suppose you have 28 metres of fencing and you want to build two piggie pens, identical rectangles in the form shown below.



1. Using the 28 centimetre straw you are given, in place of the 28 metres of fencing, make one of the many possible pen configurations.

Stick it down on a piece of paper.

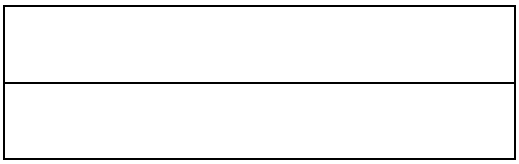
2. Explain how you went about making it. Step-by-step.

3. Mark on the dimensions of the pen configuration you made, but you are only allowed to measure one of the dimensions with a ruler, the rest must be calculated from that measurement – do not simplify any calculation.

4. With the help of you fancy calculator, figure out which of the many configurations would result in a single pen being as big in area as it can be.

Task 2 (work alone on this task – the work submitted must be our own)

Suppose you have *f* metres of fencing and you want to build two piggie pens, identical rectangles in the form shown below.



f is a number that will be given to you by your teacher – it will be different for all of your.

Figure out which of the many configurations would result in a single pen being as big in area as it can be.

Task 3 (work alone on this task – the work submitted must be our own)
Suppose you have *f* metres of fencing (the same value as used in Task 2) and you want to build three piggie pens, identical rectangles in the form shown below.

Figure out which of the many configurations would result in a single pen being as big in area as it can be.

Task 4 (work alone on this task – the work submitted must be our own)
Suppose you have *f* metres of fencing and had to build *n* piggie pens, each identical rectangles like those in previous questions. Determine the area of one pen.

Task 5 (work alone on this task – the work submitted must be our own)
In reality, when building the piggie pens seen in Figure 2 on the previous page, what thinking might have been done when deciding the configuration of the pens?