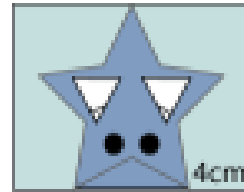
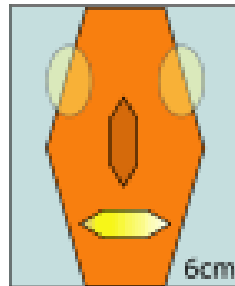


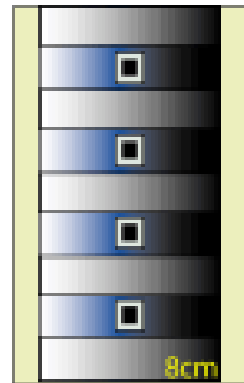
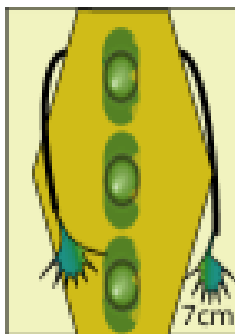
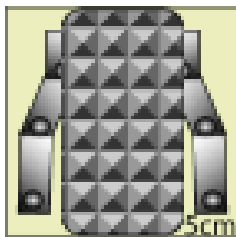
Robot Monsters

You are going to make three Robot Monsters. They are all 5 cm wide.

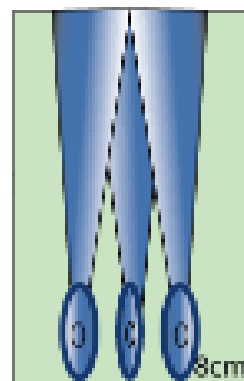
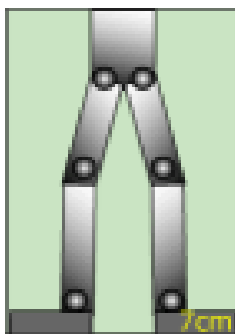
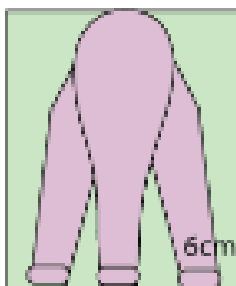
Here are their heads which all have blue backgrounds:



Here are their bodies which all have yellow backgrounds:



Here are their legs which all have green backgrounds:



What is the tallest Robot Monster that you can make using one head, one body and one set of legs?

What is the shortest one you can make using one head, one body and one set of legs?

How tall would the Robot Monster be that was made from the three bits left over after you had made the tallest and the shortest?

How many Robot Monsters which are all different heights can you make with the nine pieces (all with one head, one body and one set of legs)?

Answers:

The biggest robot you can make is 22cm using 6cm head 8cm body and 8cm legs

The smallest robot you can make is 14cm using 3cm head 5cm body and 6cm legs

The bits that are left over using 4cm head 7cm body and 7cm legs that equals 18cm

They went on to say:

There are 27 ways to make different monsters but only 9 different heights of monster altogether:

Head	Body	Legs	Total height
3	5	6	14
3	5	7	15
3	5	8	16
3	7	6	16
3	7	7	17
3	7	8	18
3	8	6	17
3	8	7	18
3	8	8	19
6	5	6	17
6	5	7	18
6	5	8	19
6	7	6	19
6	7	7	20

Head	Body	legs	total
6	7	8	21
6	8	6	20
6	8	7	21
6	8	8	22
4	8	8	20
4	8	7	19
4	8	6	18
4	7	8	19
4	7	6	17
4	7	7	18
4	5	8	17
4	5	7	16
4	5	6	15