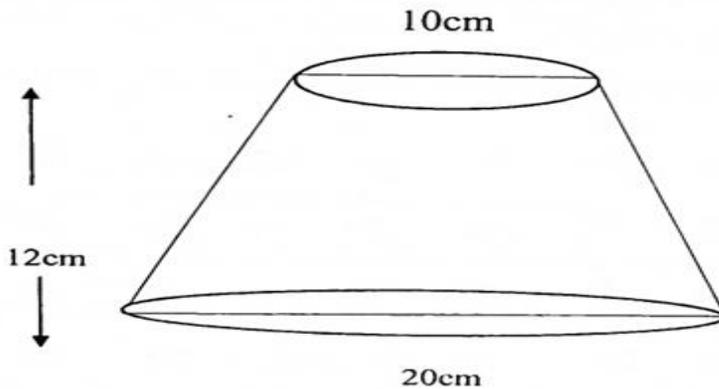


## S4 MATH REVISION QUESTIONS

### Item one

Your father has a milk producing business. The bucket below is of height 12cm. its upper and lower diameters are 10cm and 20cm respectively. He always gets 25 buckets daily of milk.



Mary and James are employees of your father's milk producing business. Mary is paid monthly gross income of shs500,000 while James is paid shs 650,000 monthly. The gross includes non-taxable allowances as shown below.

Transport	shs 480,000 per annum
Housing	shs 600,000 per annum
Medical	shs 30000 per month
Children	below 10 years – shs 5000 per month
	Above 10 years but below 18 years – shs 8000 per month.

Mary has two children aged 5 years and 9 years James has five children aged 8 13 17 19 and 21 years. The company taxes the workers using the system below.

Taxable income she	Rate %
0-50,000	5
50,000-120,000	10
120,000-200,000	15
200,000 and above	20

#### TASK

- 1) Calculate the daily amount of milk produced.
- 2) Determine each employee's net income.

## Item two

Your sister works as a production manager of a company that deals in manufacturing of school laboratory supplies. The company has received an order of making 1420 pyramids for a certain school. The school wants a Pyramid with a square base measuring 6 cm and slanting edge of 7 cm. Your sister must submit a sketch that is to be folded to make the Pyramid that the school wants but she is finding it hard. The company packs the pyramids in a box that measures 66 cm by 24 cm by 15 cm and the manager wants to know the number of boxes that will be needed to pack all the pyramids that the school wants, as there only 5 boxes available in stock.

The company manufactures and sells each Pyramid at Shs. 25,000 and the company manager receives a commission of 12% on the first 500 pyramids and then 8% on the pyramids excess of 500. Your sister wants to know the total commission she will receive from the order made by the school.

### Task

- (a)
  - (i) Help your sister to sketch the diagram she is to submit.
  - (ii) How many pyramids can be packed in the box?
  - (iii) Are the available boxes enough for the pyramids ordered for?
- (b) Obtain the total commission that your sister will get from the order.

## Item three

A certain kindergarten in your county wishes to construct a swimming pool such that when it is completely full of water, the shallow end is 1m deep and the deep end is 4m deep. The pool is to have a length of 25m from the deep end to the shallow end and width of 20m. The tap closest to where the swimming pool is to be constructed delivers water at a rate of 400litres per minute. The engineer who has been contracted to build the swimming pool wants to know the angle of inclination so as to obtain the volume of water that can fill the tap but he is unable.

### Task:

- (a) Find the angle of inclination of the pool to the base.
- (b) Find out the volume of water in litres that can fill the pool.
- (c) How long will it take for the tap to fill up the swimming pool to the nearest hour?