



## EXAM QUESTIONS (PAPER 2)

07 NOVEMBER 2013

### Lesson Description

In this lesson we revise:

- Selected Paper 2 exam questions

### Questions

#### Question 1

(Adapted from 2012 DBE Exemplar Paper 2, Question 1)

Lerato wants to earn extra money to use towards her studies. After seeing how many people buy Chip Twisters, she investigated the possibility of selling Chip Twisters herself. She will need the following to start her business:

#### Fixed assets

- A cutter to slice the potatoes into rings
- A deep-fryer to fry the potatoes

#### Consumable goods

- Potatoes
- Bamboo sticks
- Oil for frying
- Seasoning



She finds out that she can buy the cutter and the deep-fryer for R1 730. She asks her uncle to lend her the money to buy the cutter and the deep-fryer. He agrees that she can repay him at the end of 2 years, but at a compound interest rate of  $7\frac{1}{2}\%$  per year, compounded annually.

- a.) Calculate how much she must repay her uncle after 2 years. (5)

Lerato incurs the following costs:

ITEM	COST
A 10 kg bag of medium-sized potatoes (average of 48 potatoes per bag)	R49,00
100 bamboo sticks	R19,99
200 g bottle of seasoning	R8,75
750 ml bottle of cooking oil	R12,50
9 kg gas bottle	R259,00



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In order to produce one Chip Twister, Lerato uses:

- 1 potato; 1 bamboo stick; 1,5 g of seasoning

b.) Calculate the cost of producing ONE Chip Twister using these ingredients. (7)

In order to fry the Chip Twister:

- The deep fryer uses 2l cooking oil to fry one 10 kg bag of medium-sized potatoes.
- The 9 kg bottle of gas can fry up to 500 chip twisters.

c.) Calculate the total cost of producing ONE Chip Twister. (7)

Lerato sells her Chip Twisters at a local flea-market. Her rent and transport costs per week amount to R450,00.

d.) Write down the formula that Lerato can use to calculate her weekly costs to produce and sell Chip Twisters if the total cost to produce one Chip Twister is R2,50.

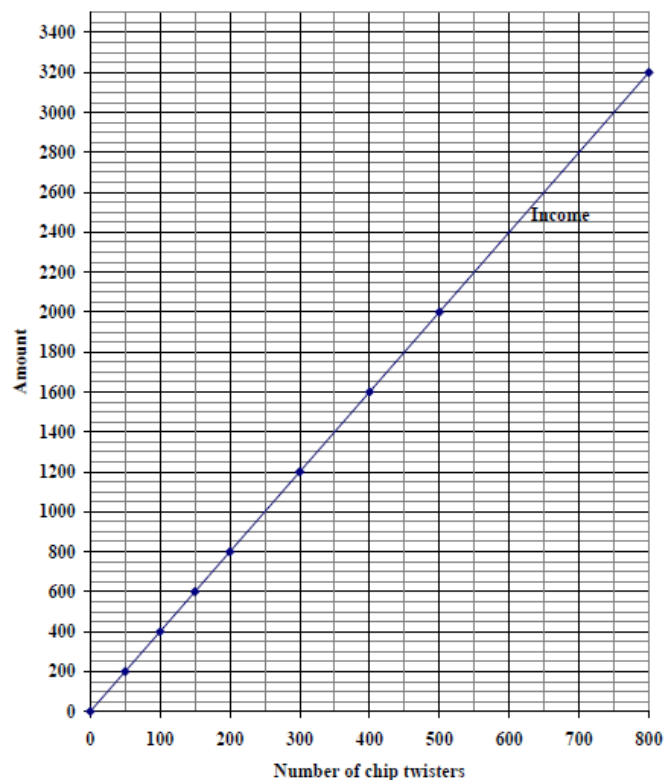
Write the formula in the form:

**Weekly costs (in rand) = 450 + ...** (2)

e.) Hence, or otherwise, calculate how many Chip Twisters she will make if her weekly costs are R1 700. (3)

The graph showing Lerato's weekly income from the sale of Chip Twisters is drawn on the graph below:

**INCOME AND COSTS FOR CHIP TWISTERS**





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f.) On the same grid, draw the graph showing Lerato's costs to produce and sell Chip Twisters. (4)

Use the graphs from f.) to answer the following questions.

g.) Determine the selling price of a Chip Twister. (3)

h.) How many chip twisters must Lerato sell in order to break even? (2)

**Question 2**

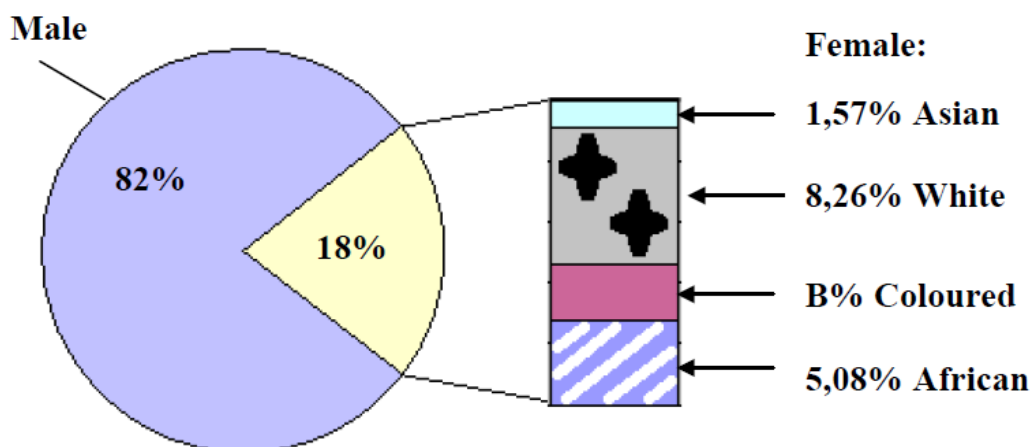
*(Adapted from 2012 DBE Exemplar Paper 2, Question 3)*

Marvin has a gym. In 2012 a total of 1 150 people attended the weight-lifting classes. He kept a record of the number of males, females and races who attended the weight-lifting class from 1 January to 31 December 2012.

Use the pie chart and the table below to answer the questions that follow

**TABLE: Number of males and females attending the weight-lifting classes**

MONTH	NUMBER OF MALES	NUMBER OF FEMALES
January	60	16
February	71	19
March	63	18
April	82	15
May	80	19
June	52	13
July	96	<b>A</b>
August	79	14
September	80	15
October	119	20
November	76	25
December	85	18
<b>TOTAL</b>	<b>943</b>	





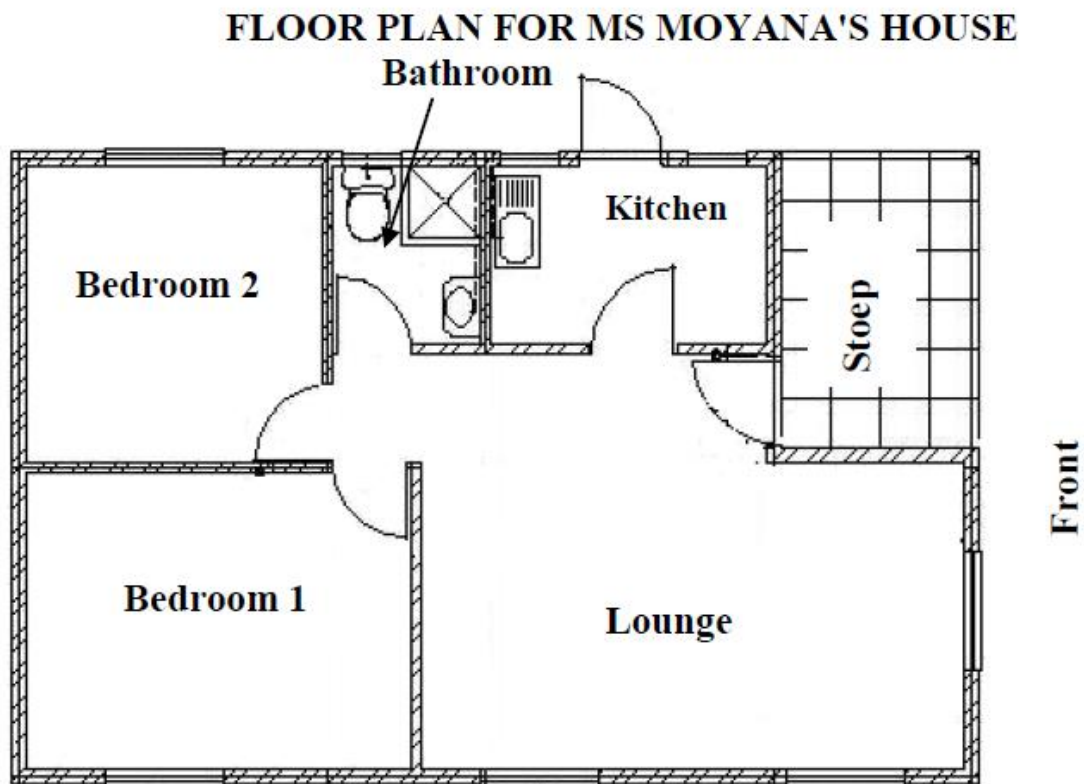
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- a.) Give the ratio (in simplest form) of the number of female weight lifters to male weight lifters who attended the weight-lifting classes in September 2012. (2)
- b.) Calculate the missing values A and B. (5)
- c.) If a weight lifter is chosen at random from the whole year's weight-lifting class, what is the probability that the weight lifter will be a white female? (5)
- d.) Determine the:
  - i. Mean (average) of the number of males in the weight-lifting class (3)
  - ii. Modal monthly number of females in the weight-lifting class (2)
  - iii. Median of the number of males in the weight-lifting class (3)
  - iv. Range of number of females in the weight-lifting class (2)
- e.) State, with reasons, whether the mean, mode or median best describes the data values of the number of males in the weight-lifting class. (3)

### Question 3

*(Adapted from 2012 DBE Exemplar Paper 2, Question 4)*

Ms Moyana has the following floor plan for the new house that she wants to build. Use the plan below to answer the questions that follow.



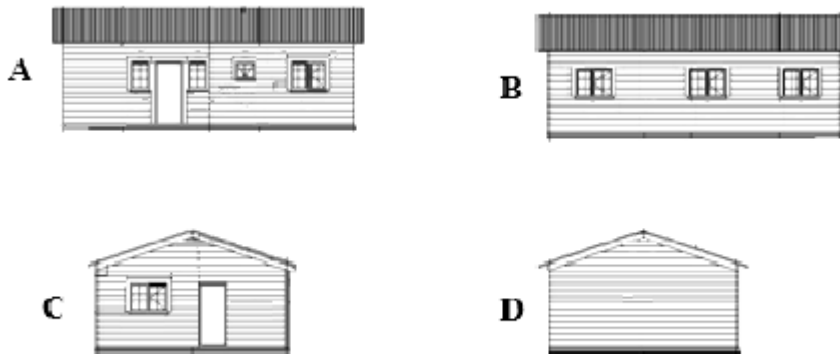


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The outer dimensions of bedroom 2 are 3,45 m × 3,45 m.  
The length of bedroom 2 on the plan is 3,45 cm

- a.) Determine the scale used for the plan (3)
- b.) How many windows are at the front of the house? (2)

The diagrams below show different elevations of the house whose plan is shown on the previous page.



- a.) Which ONE of the diagrams above is the front elevation? Justify your answer. (3)
- b.) For which rooms on the floor plan are the windows shown in DIAGRAM B? (2)

**Question 4**

*(Adapted from 2012 DBE Exemplar Paper 2, Question 4)*

Mrs Khosa and her husband are planning to have three children.

- a.) Draw a tree diagram showing all possible combinations of boys and girls in a family of three children. (5)
- b.) What is the probability of Mrs Khosa having at least two girls? (3)
- c.) List ALL the outcomes where Mrs Khosa can have two boys and one girl. (3)



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