# FORMATIVE ACTIVITIES

1. Formative Assessment

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| --- |
| Estimate (guess) and then measure the lengths of the following line segments. Give your answers in cm and mm. |
|  |
|  |
|  |
|  |

1

2

3

|  |
| --- |
| A rectangular plot of land has a length of 250m and a width of 175 m. The farmer wants to fence the plot using 6 strands of wire. What length of wire will s/he need? |
|  |
|  |

## Speed

Speed = 

Example

You take 5 minutes to walk the 900 m from your house to the mall. Your average speed was

 Speed =  = 3 m/s

Note that we do not know your speed at any specific point on your journey. To know that, we need to know what distance was covered in a very short time period around that point.

Important: Speed is measured in m/s therefore minutes must be converted to seconds.

1. Formative Assessment

Every weekday, from Monday to Thursday, Thabo drives the distance of 25 km between his home and work in 30 minutes. However, Fridays it only takes him 20 minutes to cover the same distance.

|  |
| --- |
| Calculate his speed on weekdays except Fridays.  |
| Calculate his speed on Fridays.  |

A bicycle moves 65 meters in 15 seconds. Calculate the speed of the bicycle.

|  |
| --- |
| s = distance / time |
|  =  |
|  =  |

1. Formative Assessment

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| Every weekday Sam drives the distance of 25 km between his home and work in 30 minutes. However, Fridays it only takes him 20 minutes to cover the same distance. |
| What information do you need to calculate the velocity of Sam’s car on these different days? |
|   |
| One day Sam drives at a speed of 20 m/s on a straight road. Suddenly a dog appears in front of him and he hits the breaks for 4s. The car decrease speed (uniformly) to a speed of 8 m/s. What was the acceleration? |
|   |
|  |
| Sam drove from his house to College. When he stopped at College he saw on the instrument panel of his car that he covered 26.5 km. Consider the figure below and answer the following questions: |
| What is the distance covered by Sam? |
|   |
| What is the displacement? |
|   |

Sam’s house

Sam’s College

20 km

|  |
| --- |
| A bird flies 50 km everyday to collect food for his offspring and 20km to drink water. To fly this distance takes him 1hr40min  |
| Calculate its average speed over the whole day. |
|  |
| Calculate its average speed during flight. |
|  |
| What would the average velocity of the bird be if it returns to its nest every night. |
|  |

1. Formative Assessment

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| --- |
| Estimate and then calculate the area of: This page |
|  |
| The top of your file |
|  |
| Which units of area will be best for measuring the area of the floor of this room?  |
|   |
| the area of a soccer field? |
|   |
| the area of South Africa? |
|   |
| Calculate the area of each of the following triangles |
| 1.  |
|   |
| 2.  |
|   |
| 3.  |
|   |

3 cm

4 cm

50 mm

50 mm

60mm

40 mm

40 mm

70 mm

No 1

No 2

No 3

|  |
| --- |
| Consider a box with dimensions: length 34 cm, width 4 cm and height 3 cm. How many 1 cm3 unit cubes are needed to cover the base of the box? How many layers of cubes are needed to fill the box? |
|   |
|  |
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1. Formative Assessment

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| Estimate (guess) which object has the greater volume: a cube with sides of 6 cm or a rectangular box of 7 cm by 6 cm by 4 cm. Now calculate the volumes accurately. |
| Cube:   |
| Box:   |

1. Formative Assessment

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| In each case give the greater/greatest measurement: |
| a. 250 g; 0.2 kg g |
| b. 0.01 kg; 12 000 mg; 10 g mg |
| Give some examples of fluids that you can buy in packages that are marked in  |
| a. ml |
| b. l |
| What is the mass indicated on the spring balance shown on the next page?   |
| What is the volume of the fluid in the measuring cylinder shown on the next page?   |
| Choose the best estimate: |
| The mass of a pen is: 0.2 kg; 5 g; 90 mg  |
| Container A is filled with cookies and container B with chips. Which will have the greater mass? Explain your answer.  |

200

100

ml

30

25

20

10

5

**kg**

15

1. Formative Assessment

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| --- |
| Give some examples of fluids that you can buy in packages that are marked in  |
| a. ml |
| b. l |

1. Formative Assessment

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| --- |
| How many seconds are there in 2 minutes?  |
|   |
| How many minutes are there in 3 h 45 min?  |
|   |
| How many seconds are there in 610,2 minutes?  |
|   |
| Write the following according to the international time system: |
| a. 2.16 p.m.  |
|   |
| b. 12.05 p.m.  |
|   |
| c. 3.12 a.m.  |
|   |
| An athlete runs 1 500 m in 3 min. 42 s. How many seconds is this less than 4 min.  |
|   |
| How many seconds is this more than 3 min 38 s.  |
|   |

1. Formative Assessment

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| A bucket of water has to be heated from 20 ºC to 45 ºC. The heating element can heat at 0.05 ºC/s (heating factor). How many seconds would it take this element to heat the water to the required temperature?  |
| time = change in temperature / heating factor |
|  =  |
|   |
| The inlet of a boiler adds 6 Litres of water per second to its contents. We will call this a flow factor (ff). The volume needs to increase from 1000 Litres to 1500 Litres. How many seconds would this take? |
| First calculate the change in volume. |
| Δv (change in volume) = vf (final volume) – vi (initial volume) |
|  =  |
|  =  |
| Next use the flow factor(ff) of 6 Litres per second to calculate the time required. |
| time = Δv / ff |
|  =  |
|   |
| What is the difference in temperature in degree Celsius between Ice and boiling water: |
|   |
| The maximum and minimum temperatures for a day (estimate!) in June:  |

1. Formative assessment: using the SI system

The SI system uses the metric (decimal) system and uses a number of standard prefixes for units of length and mass that were covered in the previous section. Using the SI system means that we should know the most important ones. The three most important ones are:



|  |
| --- |
| Complete each of the following: |
| 150cm = \_\_\_\_m |
| 360mm = \_\_\_\_m |
| 62ml = \_\_\_\_litres |
| 3.6 tonnes = \_\_\_\_kg |

Complete the table below:

|  |  |  |
| --- | --- | --- |
| **Quantity** | **Unit** | **Symbol** |
| Mass |   |   |
|   | Meter |  |
|   |   | s |
| Temperature |   |  |
|   |   | A |
| Light |   |  |
| Chemical standard unit |   |  |

1. Formative Assessment

Write down the names of objects you have come across in your daily life which have the shapes of the solids shown above.

|  |
| --- |
| Cylinder |
| Cube |
| Rectangular prism |
| Sphere |
| Pyramid |

|  |
| --- |
| The rectangular sheet of material below is folded to produce the open cylinder .  |
| What is the height of the cylinder? |
|   |
| Calculate the surface area of the open cylinder. |
|   |
| Calculate the radius r of the cylinder. |
|   |

C

r

300 mm

200 mm

A

B

D

2

2

4

5

|  |
| --- |
| Calculate the area of the figures above |
|  |
|  |
|  |

|  |
| --- |
| Two rectangular boxes have the following dimensions:  |
| A:10 mm X 60 mm X 20 mm12000mm3 |
| B: 20 mm X 30 mm X 20 mm12000mm3 |
| Make a rough sketch of each and calculate the capacity of each box. |
|  |
|  |
|  |
|  |
|  |

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| --- |
| Estimate and then calculate the volume of each of the following boxes with sides of: |
| a) 4 cm, 34 cm and 3 cm  |
|   |
|  |
|  |
|  |
| b) 5.25 cm, 40 mm, 7 cm  |
|   |
|  |
|  |
|  |
| A manufacturer of body lotion decides to market his product in a new cylindrical container which will hold 500 ml and which is 100 mm high. |
| What will the radius of this new container be? |
| Use the volume to calculate radius = 3.99 cm |

|  |
| --- |
| v = 500ml = 500cm^3 = 500 000mm^3 |
| l = 100mm |
| r = ? |
| a = ? |
|  |
| area of circle = v / l |
|   |
|   |
| area of circle = pi x r^2 |
| r = √(area of circle / pi) |
| r = √(1591.55) |
| r = 39.89 mm |

|  |
| --- |
| Calculate how much material (area) will be needed to make one such container. |
| = 351 cm2 |
|  |

|  |
| --- |
| area of material = (2 x circle area) + side area |
| circumference = 2 x pi x r |
|   |
|   |
| side area = l x circumference of circle |
|   |
|   |
|   |
|   |

|  |
| --- |
| Calculate the volume of the rectangle. |
|   |
| If the outside of the rectangle is painted red, calculate the area of red paint. |
|   |
|  |

8 cm

5 cm

20 cm

## The Theorem Of Pythagoras

In any right-angled triangle the following applies:

A

B

The square on the hypotenuse side is equal to the sum of the squares on the other two sides (AC) = (AB)+ (BC)

If AB = 4 cm and BC = 3 cm, how long will AC be?

C

According the theorem:

1. Formative Assessment

|  |
| --- |
| Find the value of z. |
|   |

z

5

13

|  |
| --- |
| You are involved in the planning of a team building venue. You are going to install a slide on top of a tower A which is 40m high. Anchor C has been placed 60m from the building on the ground. How long will the cable be from A to C? |
|   |
|  |
|  |
|  |
|  |
|  |

Team

Building

Venue

A

B

Tower A

Anchor

C

|  |
| --- |
| The base of this prism on the next page is a right-angled triangle. The two sides adjacent to the right angle are 5 cm and 12 cm. The height of the prism is 20 cm. |
| 1. Calculate the length of the third side of the base.
 |
|  |
|  |
| 1. Calculate the volume of the prism.
 |
|  |
|  |
|  |
| 1. Calculate the surface area of the prism.
 |
|  |
|  |

20 cm

5 cm

12 cm

## Ratio



Figure A

Figure B

**3** **:** **1**

The above figures have the ***same shape*** but ***not the same size***.

There exists a mathematical relationship between the corresponding lengths on the two figures.

1. Formative Assessment

|  |
| --- |
| Construct triangle ABC with AB = 2 cm, BC = 3cm and AC = 4cm. |
| Construct triangle DEF with sides 2 cm longer than the sides of triangle ABC. |
| Construct triangle PQR with sides twice as long as the sides of ABC. |
| Which of the two triangles DEF or PQR is an enlargement of ABC? |
|   |

1. Formative Assessment

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| A model train is made to a scale of 1:50 |
| a) If the length of the real train is 25 m, what is the length of the model |
|   |
| b) If the model is 15 cm high, what is the height of the real train?  |
|   |
| On the plan of a building every 2 cm represents 1 m on the actual building. What scale is used?  |
|   |

1. Formative Assessment

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| --- |
| Look at the plan of the house on the next page. The area of the lounge is 3035cm X 3850cm.  |
| Calculate the area of the lounge in cm. Lounge area in cm:  |
|   |
| Convert the cm into m. Lounge area in m:  |
|   |

1. Formative Assessment

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| You want to place the tumble dryer under a shelf in the laundry. The height of the shelf is 900mm. Will the tumble dryer fit under the shelf? |
|   |

Draw a front view of the tumble dryer with the door closed. Make sure that your drawing is according to scale, with a ratio of 10:1. If your drawing is not good enough or not right, do it over until you get it right. You will need it for the assessment. You do not have to draw the castors at the bottom of the tumble dryer. The dimensions of the drawing are:

Width: 60 mm

Depth: 50 mm

Height: 90 mm

Door: 40 mm wide and 40 mm high and 20 mm from the bottom

Front panel: 25 mm high and 60 mm wide

1. Formative Assessment

**Handout 4**

* Cut out the box in handout 4, follow the instructions above and make a box.
* Measure the height, length and width of the box and write it down.
* Calculate the volume of the box.
* Made a drawing of the finished box.
* Formative Assessment

|  |
| --- |
| List at least three cities in South Africa:  |
|   |
|  |
|  |
| Which cities have international airports?:  |
|   |
|  |
|  |
| Name two countries that are located to the north of South Africa:  |
|   |
|  |
| South Africa encloses two other independent countries. Name them:  |
|   |
|  |
| One province is not named on the map, which province is this?  |
|   |
| The names of two provinces are different to that quoted on the map. Give their old and new names.  |
|   |
|  |

1. Formative Assessment

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| --- |
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|   |
| The names of two provinces are different to that quoted on the map. Give their old and new names.  |
|   |
|  |

* Formative Assessment

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| --- |
| Refer to page 5 of handout 1 and give the GPS coordinates of the following locations: |
| Corner of Bennit Avenue and Farrar Street: |
|   |
| Corner of Main Reef and Pretoria Roads |
|  |
|  |
| Corner of Morgan and Gayle Roads |
|  |
|  |

1. Formative Assessment

Budgeting

* In the estimate column, write down your expenses.
* Write down your income.
* Total your expenses. Subtract this from your income

The purpose of this exercise is to show learners how to budget

|  |
| --- |
| **BUDGET** |
| **EXPENDITURE** | **ESTIMATE** | **ACTUAL** | **DATE PAID** |
| **Fixed Expenditure** |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Sub Total** |  |  |  |
| **Variable Expenditure** |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Sub Total** |  |  |  |
| **Discretionary Expenditure** |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Sub Total** |  |  |  |
|  |  |  |  |
| **Unforeseen Costs** |  |  |  |
|  |  |  |  |
| **TOTAL EXPENDITURE** |  |  |  |

1. Formative Assessment

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| --- |
| Sipho and Paulina earn a joint income of 12 000 per month. If the bank is giving loans at 12% over 20 years, what size of bond will they qualify for?  |
|   |
|  |
| Thomas has seen a beautiful house worth R220 000. If the bank will grant him a loan at 15% over 20 years, what will his repayments be?  |
|   |
|  |
| How much more per month will Thomas have to pay in order to pay off the house in 10 years time?  |
|   |
|  |

1. Formative Assessment

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| --- |
| Money required: R 10 000 |
| Interest rate: 22,5% |
| Pay back period: One Year |
| What is the interest in rand per month? |
|   |
|   |
|   |
|   |
| What is the total interest payable over the one year period? |
|   |
| What is the total monthly payment? |
|   |
| What is the interest per month if the interest rate increases by another 1,5%? |
|   |
|   |
|   |
|   |
| What is the total interest payable over the one year period if the increase came into effect at the beginning of the seventh month? |
|   |
|   |
|   |
|   |
|   |

1. Formative Assessment

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| --- |
| There are 95500 people living in Mankwe. The annual growth rate is 6.% every year. What will the population of Mankwe be after 10 years?  |
|   |
|  |
| You invest R678 for 12 year at a rate of 15.6%. What would your returns be at the end of year 12?  |
|   |
|  |

1. Formative Assessment

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| Which of the following investments would be the most lucrative? R500 invested for 10 year at 14% per year, compounded each semester. OR R500 invested for 10 year at 13,8% per year, compounded each quarter?  |
|   |
| An investor invests R500 for 5 year at 11, 5% per year, compounded yearly. At the end of year 5 he invests an extra R5000 running for 5 more years at 12% per yeaR, compounded quarterly. Calculate: the amount available after 5 years  |
|   |
|  |
| the amount to be re-invested at the beginning of year 6  |
|   |
|  |
|  |
|  |
| the final amount at the end of year 10.  |
|   |
|  |
|  |
| A father wants to have R16 000 available for his sons education on his 18th birthday. Calculate the amount he must invest on his son’s 10th birthday at 14% compounded interest? 1164.19 |
|   |
|  |
| The Maluti Company bought equipment to the value of R43 200. The yearly depreciation is 12 %. After 12 year it is sold. Calculate the value of the equipment after 12 yearS. 9316.99 |
|   |
|  |
| What is the amount that must have been invested 12 years ago at 12 % , to buy new equipment , valued R54 300. (Money generated from the sale of old equipment, calculated in a, is also used for the new equipment) 9701.54 |
|   |
|  |
|  |

1. Formative Assessment

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| --- |
| List two benefits of budgeting |
|   |
|   |
| Which financial records does a manager use to control income and expenses?  |
|   |
|   |
|  |
| Refer back to the Management Budget Report for the year 2003 and answer the following questions: What was the total income for the year? |
|   |
| What was the difference between the budgeted income and the actual income?  |
|   |
| How much was spent on purchases for the year? |
|   |
| What was the difference between the budgeted expenses and the actual expenses? |
|   |
| Refer back to the payments and expenses report for March 2003 and list the expenses that are indicated on the report. |
|   |
|   |
|   |
|   |
|   |
|  |
| List at least four other expenses you can think of that a business or government department will have. |
|   |
|  |
|  |
|  |

1. Formative Assessment

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| --- |
| Explain fixed costs. |
|   |
| Explain variable costs. |
|   |
| How do you calculate total costs?: |
|   |
| What is a budget? |
|   |
| Why is budgeting important?  |
|   |
| List two ways of saving costs in a business |
|  |
| How does a business generate income?  |
|   |
| What is gross profit?  |
|   |
| What is net profit? |
|   |
| What is marginal cost?  |
|   |
| What is marginal revenue?  |
|   |

1. Formative Assessment

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| The Rule Of 72 |
| Assuming a rate of inflation of 12%, calculate, using the Rule of 72, when the price of goods will double (i.e. the number of years). |
|   |
|  |
| Assuming a rate of 10%, use the Rule of 72. |
|   |
|  |
| Assuming a rate of 8%, use the Rule of 72. |
|   |
|  |
| Angela is set to retire in 27 years’ time. At the moment she earns R5000 per month. If inflation remains at 8% on average, what will Angela have to be earning at the time of her retirement to maintain her standard of living? (Use the Rule of 72). |
|   |
|  |

1. Formative Assessment

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| Where does the Minister of Finance get the money to allocate to the various state departments? |
|   |
|  |
| What does the government do with the money the collect through tax? |
|   |
|  |

1. Formative Assessment

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| Discuss the following questions in a group and then note your answers |
| In your own words describe why energy resources should be distributed equitably amongst the people and businesses in South Africa. |
|  |
|  |
|  |
|  |
| How can government ensure equitable distribution of water resources? |
|   |
|  |
|  |
|  |
| What happens if government does not render a waste disposal service? |
|   |
|  |
|  |
|  |
| How can government ensure equitable distribution of resources to encourage agricultural development? |
|   |
|  |
|  |
|  |
| Why should welfare benefits also be distributed equitably among the needy? |
|   |
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1. Formative Assessment

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| How much would we pay per barrel of crude oil if the price goes up to US$ 75 and the US$ exchange rate stays the same?  |
|   |
|  |
| How much would we pay per barrel of crude oil if the price goes up to US$ 75 and the US$ exchange rate drops to 5.865?  |
|   |
|  |
| How much would we pay per barrel of crude oil if the price drops to US$55 per barrel and the exchange rate stays the same?  |
|   |
|  |
| How much would we pay per barrel of crude oil if the price drops to US$ 55 and the exchange rate drops to 5.865?  |
|   |
|  |

1. Formative Assessment

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| What would an exporter get for gold if the gold price drops to US$ 520 but the exchange rate remains at 7.565?  |
|   |
|  |
| What would an exporter get if the gold price rises to US$ 620 and the exchange rate rises to US$ 8.6570?  |
|   |
|  |
| What would an exporter get if the gold price rises to US$620 and the exchange rate drops to 5.985?  |
|   |
|  |

1. Formative Assessment

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| --- |
| You have R50 000 to take with you on your trip overseas. |
| How many US$ will you get if the exchange rate stays at 7.565?  |
|   |
|  |
| How many US$ will you get if the rate goes up to 8.6570?  |
|   |
|  |
| How many US$ will you get if the rate goes down to 5.985?  |
|   |
|  |

1. Formative Assessment

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| --- |
| List three sources of secondary information |
|   |
|  |
|  |
| List three sources of primary information |
|   |
|  |
|  |
| List two sources of internal information |
|   |
|  |

1. Formative Assessment

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| How do we evaluate secondary information? List three questions |
|   |

1. Formative assessment

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| In a group, decide on a topic that you want to do research on. The topic has to relate to your place of work. Write down the aim of the research. |
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1. Formative Assessment

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| List 3 ways of segmenting your customers. |
|   |

1. Formative Assessment

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| Explain the following terms: A population |
|   |
| A unit |
|   |
| A sample |
|   |
| A sampling frame |
|   |
| A variable |
|   |
| A probability sample |
|   |
| List 2 probability sampling techniques |
|  |
|  |

1. Formative Assessment

Practice the following section as the lecture proceeds

A table of random digits is simply a list of the ten digits (0 through 9) with these properties.

* The digit in any position in the list has the same chance of being any of the ten digits.
* Digits in different positions are independent in the sense that the value of one has no influence over the value of any other.
* Any pair of digits has the same chance of being any of the 100 possible pairs (00 through 99).
* Any triple of digits has the same chance of being any of the 1000 possible triples (000 through 999), and so forth for 4 digits or higher.

The table in handout 1 contains 11 columns. The first column is a sequence from 1 to 250 so that you know where you are in the table when you are using it. The random digits are in groups of five in order to make them easier to read. In addition, five rows are shaded then the next five are not, and so forth. This arrangement is for the sake of convenience because 12,500 digits strung together as one long number is difficult to read.

Using a random number table is actually easy when you get the hang of it. I’ll go through a few examples and you’ll be proficient in no time.

1. Formative Assessment

Follow the steps below

I want you to do this example in order to convince yourself that statistics really works! This exercise involves a bit of work but it’s not difficult. Follow these steps.

* Number the circles in the figure from 00 to 99, in any order that you want. I don’t care how you number the circles because the way you number them makes no difference to the outcome of the solution. You may number them vertically, horizontally, randomly or by size. You must, however, write the numbers in each circle because you will not be able to remember each circle’s number out of your head.
* Once your have the circles numbered, use the table of random digits in Annexure A to select an SRS of size 4. Remember to discard all duplicates and continue until you have four unique numbers.
* Find the circles that match the numbers from the table of random digits and record each diameter (check the figure as the printed version may not be exact). When you have the four diameters, calculate the ordinary average by adding the four values and dividing by four. In mathematics-talk, let d1 be the diameter of the first circle, d2 the diameter of the second circle, and so forth. Then calculate the ordinary average:



* Start at different points in the table and repeat the same procedures three more times so that you have four averages.
* Now draw an SRS of size 16 from the population ensuring that you start at a different point in the table. Record your results and calculate the ordinary average of the diameters. (Sum the 16 diameters and divide by 16).

Now comes the fun part: we are going to analyse our results. The following table displays the averages that resulted from 10 samples (results) for an SRS of size 4.

‘Not very good’, you may say, and I agree. An SRS of size 4 varies all over the place. In fact, the minimum and maximum average diameters are 6.25mm and 23.75mm, respectively.

I’m putting these results in terms we already know, and introducing a few new terms as well. The ‘range’ is simply the difference between the maximum and the minimum values obtained. In this case, the range is 17.5mm (23.75 – 6.25 = 17.5).



1. Formative assessment

|  |
| --- |
| In a group, determine the population group that you will target for your survey. Then determine the size of the sample as well as the market segment. |
|  |
|  |
|  |

1. Formative Assessment

The following example of a Likert scale is copyright James C McCroskey and may only be used for instructional purposes.

1. Formative assessment

|  |
| --- |
| In a group, decide how you will collect the information for your research project and who will do it.  |
|  |
|  |
|  |

1. Formative assessment

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| --- |
| In a group, draw up a list of at least six questions for your questionnaire |
|  |
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1. Formative assessment

Use the other groups in the class as samples for your pilot survey. They must answer the questions drawn up in exercise 5 for your group.

1. Formative assessment

|  |
| --- |
| In your group, look at the replies you received from the pilot survey. Is there anything you would change on the questionnaire? Make the changes to your questionnaire and indicate the changes below. |
|  |
|  |
|  |
|  |
|  |
|  |

1. Formative assessment

Each learner gets an opportunity to throw a dice once. Before any one throws, do the following:

|  |  |
| --- | --- |
| Predict how many times the dice will land on 4 |  |
| Predict how many times the dice will land on 6 |  |

Note the number of times the dice falls on a number in the frequency table below, while the dice is being thrown.

|  |  |
| --- | --- |
| Outcome | Frequency |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |

Write the letters of the words VERY WELL on 8 cards and put them in a bag. Shuffle them well. Do the following:

|  |  |
| --- | --- |
| What is the probability for a V to be drawn?  |  |
| What is the probability for an E to be drawn?  |  |
| What is the probability for an R to be drawn?  |  |
| What is the probability for a Y to be drawn?  |  |
| What is the probability for a W to be drawn?  |  |
| What is the probability for an L to be drawn?  |  |

Divide into groups of eight. Each member draws a card. Note which letter it is. Put the card back and another member of the group draws a card. Note which letter it is. Continue until all the members of the group have drawn a card.

1. Formative assessment

Suppose you write the letters of the words VERY WELL on 8 cards and put it in a bag.

Shuffle them well and draw a card and note which letter it is.

|  |  |
| --- | --- |
| What is the probability of drawing a card with a vowel on it from the bag? |   |
| What is the probability of drawing a card with a consonant on it from the bag? |   |
| What is the sum of the probabilities of drawing a vowel and drawing a consonant? (These events are mutually exclusive.) |   |

1. Formative assessment

|  |  |
| --- | --- |
| Which company sold most cars? |   |
| Which company sold the smallest percentage of cars? |   |
| How many cars did Chevrolet sell during 1996? |   |
| What is the range of the data set? |   |

1. Formative assessment

In a group draw a column chart or a bar chart for the following information. Use the grid below to help you.

|  |  |  |
| --- | --- | --- |
| Why do you use a taxi to and from work |  |  |
|  |  |
|  |  |
|  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2200 |  |  |  |  |
| 2000 |  |  |  |  |
| 1800 |  |  |  |  |
| 1600 |  |  |  |  |
| 1400 |  |  |  |  |
| 1200 |  |  |  |  |
| 1000 |  |  |  |  |
| 800 |  |  |  |  |
| 600 |  |  |  |  |
| 400 |  |  |  |  |
| 200 |  |  |  |  |
|  | Cheap | Fast | Safe | Conve-nient |

In a group, draw a pie chart for the following information. A total of 2000 replies were received. Use the pie below to help you.

|  |  |  |
| --- | --- | --- |
| Which taxi route do you use every day? | Route A | 755 |
| Route B | 830 |
| Route C | 415 |

In a group, display the information you collected during the survey that was conducted in the class in the form of a chart.

1. Formative assessment

In a group, refer to the correlation plot on the previous page and discuss the following statement, noting your conclusions:

What conclusions do you come to regarding the relationship between the occurrence of HIV AIDS and access to primary health care?

1. Formative assessment

In a group, do the following: In each case state which of the three statistics is not an appropriate description of the given data. Order the data and draw a histogram of the data to see how it is distributed. If it is evenly distributed, the mean is most probably the best summary. If not, consider the median. If there are many occurrences of the same value, consider using the mode.

|  |
| --- |
| 5 7 2 3 8 1 5 2 6 |
|   |
| 6 2 9 0 3 2 0 2 1 3 1 0 2 |
|   |
| 21 30 14 5 16 24 17 3 29 |
|   |
|   |