



higher education  
& training

Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA



Tshwane South  
TVET College

*"achieve the future"*

**SUBJECT: FOUNDATIONAL ENGLISH AND  
FOUNDATIONAL MATHEMATICS**

**LEVEL: PLP**

**ACTIVITIES**

## UNIT 1: GROUP COMMUNICATION



### Exercise 1.1 Team Project

#### Classwork

Split into teams of 4 people. Decide who will be the leader and who will take notes.

The reason for the team to come together is that you have decided that as a group you want to do something special in your community.

1. Brainstorm ideas in your group to find something that you would like to do. (Some ideas could be to get people involved to clean a street in your town, visiting the hospital, take something nice to an old age home or orphanage etc. )
2. Once you have an idea, make a list of the things you need to do to prepare for your project.
3. From the list prepare an action plan.
4. Put all your notes behind this page. Mark each page clearly.

It is up to you if you are going to really complete your project. If you do, take photos and gather other evidence to show how you did it.

**Homework** Answer the following questions in full sentences and in your own words. Use a separate piece of paper, mark it clearly and add it behind this page.

When team members know what the purpose of their project is they know.....

List four things you have to consider when you are putting an action plan together.



## Exercise 1.2 Cultural Diversity

### Classwork

South Africa is known as the Rainbow Nation with 11 official languages and many different cultures.

Choose a classmate that does not have the same ethnic culture as you do and find out about his or her culture by asking the following questions: (Remember to take notes while you talk!)

1. What kind of food do you eat in your culture?
2. What are the customs in your culture?
3. How do you celebrate Heritage Day?
4. What are the family values in your culture?
5. Do you feel part of your own culture?

From your notes write five paragraphs to tell others about your class mate's culture.

Place all you evidence behind this page.


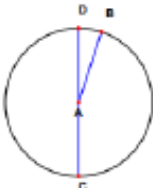
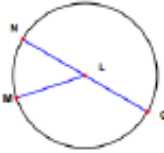

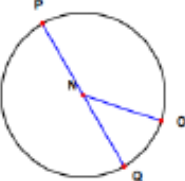
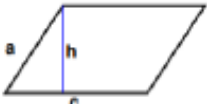
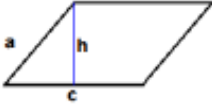
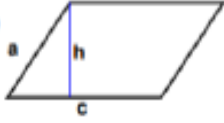
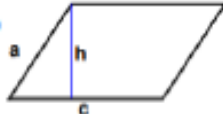
### Homework

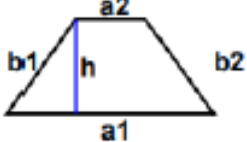
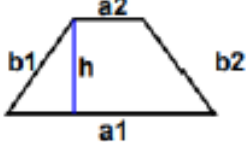
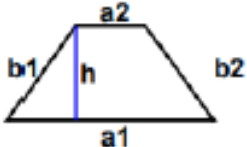
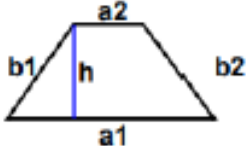

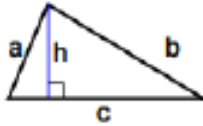
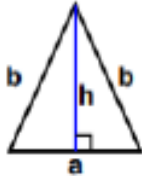
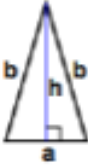
Use a mindmap and think about your own culture. Make notes on your mindmap and then write five paragraphs to tell others about your own culture.

Put your mind map and your writing behind this page.


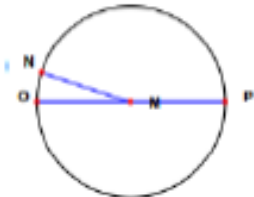
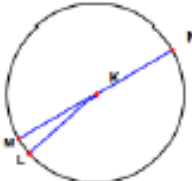
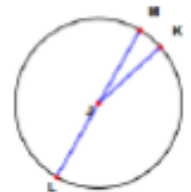
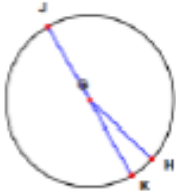
### UNIT 3: CALCULATE THE AREA OF TWO-DIMENSIONAL SHAPES

#### Exercise 3.1



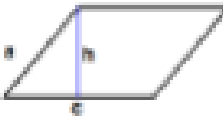
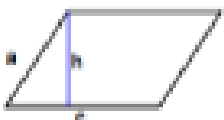
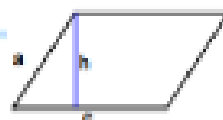
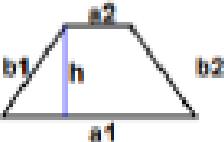
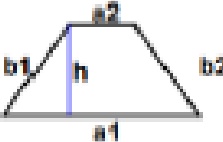
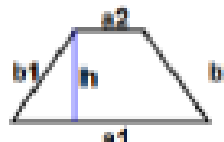
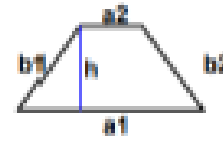
		Use the $\pi$ – key on your calculator File all your work behind this page.			
1.		Radius: Diameter: <b>4 cm</b> Area:	2.		Radius: Diameter <b>28 mm</b> Area:
3.		Radius <b>3 cm</b> Diameter: Area:	4.		Radius <b>6 mm</b> Diameter: Area:
5. A square has side length of 8 cm. Calculate the area.		6. A square has side length of 45 mm. Calculate the area.			
7. A rectangle is 4 m wide and 2 m high. Calculate the area.		8. A rectangle is 8 m wide and 6 m high. Calculate the area.			
9.	$a = 61,53 \text{ cm}; c = 94 \text{ cm}; h = 57 \text{ cm}$ Calculate the area.	10.	$a = 59,26 \text{ mm}; c = 90 \text{ mm}; h = 53 \text{ mm}$ Calculate the area.		
					
11.	$a = 60,8 \text{ mm}; c = 84 \text{ mm}; h = 56 \text{ mm}$ Calculate the area.	12.	$a = 51,32 \text{ cm}; c = 99 \text{ cm}; h = 47 \text{ cm}$ Calculate the area.		
					

<p>13.</p> <p><math>a_1 = 92 \text{ cm}; a_2 = 31 \text{ cm};</math>  <math>b_1 = 51,59 \text{ cm}; b_2 = 52,23 \text{ cm};</math>  <math>h = 42 \text{ cm}</math></p> <p>Calculate the area.</p> 	<p>14.</p> <p><math>a_1 = 90 \text{ mm}; a_2 = 39 \text{ mm};</math>  <math>b_1 = 57,24 \text{ mm}; b_2 = 46,29 \text{ mm};</math>  <math>h = 44 \text{ mm}</math></p> <p>Calculate the area.</p> 
<p>15.</p> <p><math>a_1 = 95 \text{ mm}; a_2 = 45 \text{ mm};</math>  <math>b_1 = 58,16 \text{ mm};</math>  <math>b_2 = 48,2 \text{ mm}; h = 46 \text{ mm}</math></p> <p>Calculate the area.</p> 	<p>16.</p> <p><math>a_1 = 97 \text{ cm}; a_2 = 46 \text{ cm};</math>  <math>b_1 = 64,13 \text{ cm}; b_2 = 48,74 \text{ cm}; h = 48 \text{ cm}</math></p> <p>Calculate the area.</p> 
<p>17.</p> <p><math>a = 50,99 \text{ mm}; b = 91,41 \text{ mm};</math>  <math>c = 95 \text{ mm}; h = 48 \text{ mm}</math></p> <p>Calculate the area.</p> 	<p>18.</p> <p><math>a = 45,6 \text{ cm}; b = 81,85 \text{ cm}; c = 88 \text{ cm};</math>  <math>h = 42 \text{ cm}</math></p> <p>Calculate the area.</p> 
<p>19.</p> <p><math>a = 59 \text{ cm}; b = 74 \text{ cm}; h = 66,2 \text{ cm}</math></p> <p>Calculate the area</p> 	<p>20.</p> <p><math>a = 41 \text{ cm}; b = 80 \text{ cm}; h = 74,7 \text{ cm}</math></p> <p>Calculate the area</p> 


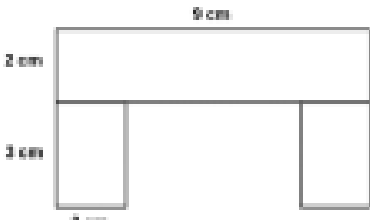
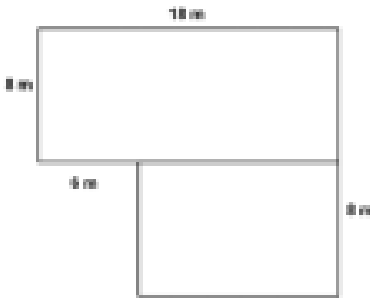

### Exercise 3.2

	<p>Solve the missing elements for each problem. Use the <math>\pi</math> – key on your calculator</p> <p>File all your work behind this page.</p>	
<p>1.</p>  <p>Radius: _____</p> <p>Diameter: <b>10cm</b></p> <p>Area: _____</p>	<p>2.</p>  <p>Radius: _____</p> <p>Diameter: <b>8mm</b></p> <p>Area: _____</p>	
<p>3.</p>  <p>Radius: <b>8cm</b></p> <p>Diameter: _____</p> <p>Area: _____</p>	<p>4.</p>  <p>Radius: <b>12mm</b></p> <p>Diameter: _____</p> <p>Area: _____</p>	
<p>5. A square has side length of 10cm.</p> <p>Calculate the area.</p>	<p>6. A square has sides of 64mm.</p> <p>Calculate the area.</p>	
<p>A rectangle is 5m wide and 3m high.</p> <p>Calculate the area.</p>	<p>A rectangle is 10 m wide and 6m high.</p> <p>Calculate the area.</p>	


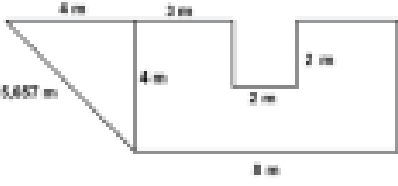
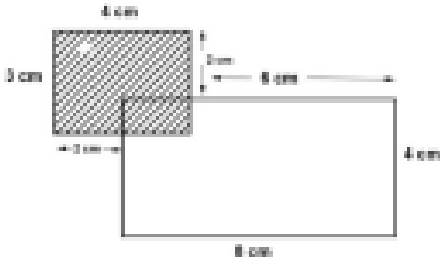
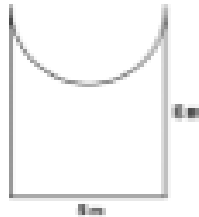
### Exercise 3.3

	<p>Use the <math>\pi</math> - key on your calculator</p> <p>File all your work behind this page.</p>
<p>1.</p> <p><math>a = 65,18 \text{ cm}; c = 91 \text{ cm}; h = 59 \text{ cm}</math></p>  <p>Calculate the area.</p>	<p>2.</p> <p><math>a = 54,46 \text{ mm}; c = 95 \text{ mm}; h = 51 \text{ mm}</math></p>  <p>Calculate the area.</p>
<p>3.</p> <p><math>a = 46,74 \text{ mm}; c = 80 \text{ mm}; h = 44 \text{ mm}</math></p>  <p>Calculate the area.</p>	<p>4.</p> <p><math>a = 51,53 \text{ mm}; c = 83 \text{ mm}; h = 48 \text{ mm}</math></p>  <p>Calculate the area.</p>
<p>5.</p> <p><math>a1 = 89 \text{ cm}; a2 = 47 \text{ cm};</math>  <math>b1 = 66,04 \text{ cm}; b2 = 50,01 \text{ cm};</math>  <math>h = 50 \text{ cm}</math></p>  <p>Calculate the area.</p>	<p>6.</p> <p><math>a1 = 80 \text{ cm}; a2 = 43 \text{ cm};</math>  <math>b1 = 65,6 \text{ cm}; b2 = 52,09 \text{ cm}; h = 52 \text{ cm}</math></p>  <p>Calculate the area.</p>
<p>7.</p> <p><math>a1 = 87 \text{ cm}; a2 = 30 \text{ cm};</math>  <math>b1 = 60,32 \text{ cm}; b2 = 61,83 \text{ cm};</math>  <math>h = 54 \text{ cm}</math></p>  <p>Calculate the area.</p>	<p>8.</p> <p><math>a1 = 94 \text{ mm}; a2 = 42 \text{ mm};</math>  <math>b1 = 71,3 \text{ mm}; b2 = 56,55 \text{ mm};</math>  <math>h = 56 \text{ mm}</math></p>  <p>Calculate the area.</p>

### Exercise 3.4


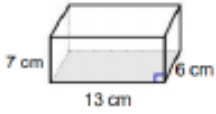
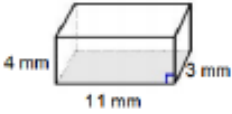
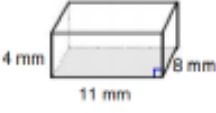
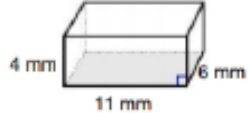
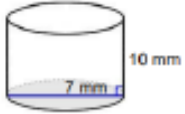
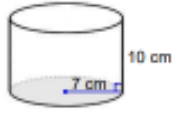
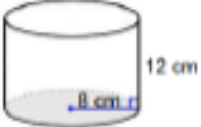
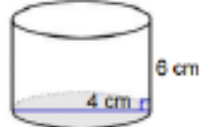
	<p>Study the composite shapes and do the calculations.</p> <p>File all your work behind this page.</p>
<p>11</p>	<p>For the shape shown here:</p>  <p>(i) Calculate the perimeter.</p> <p>(ii) Calculate the area.</p>
<p>12</p>	<p>For the shape shown here:</p>  <p>(i) Calculate the perimeter.</p> <p>(ii) Calculate the area.</p>
<p>13</p>	<p>For the shape shown here:</p>  <p>(i) Calculate the perimeter.</p> <p>(ii) Calculate the area.</p>




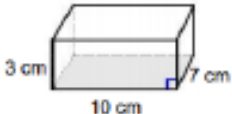
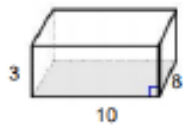
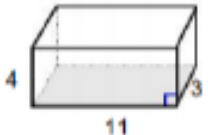
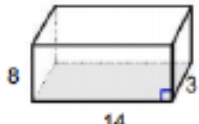
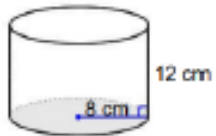
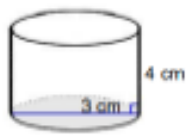
4.	<p>For the shape shown here:</p>  <p>(i) Calculate the perimeter.</p> <p>(ii) Calculate the area of the shape.</p>
5.	<p>For the shape shown here:</p>  <p>... , 51meter.</p> <p>(i) Calculate the area.</p>
6.	<p>In the shape shown here, two pieces of paper have been glued together:</p>  <p>eter.</p> <p>(i) Calculate the area.</p>
7.	<p>For the shape shown here:</p>  <p>(i) Calculate the perimeter.</p> <p>(ii) Calculate the area.</p>

## UNIT 4: VOLUMES OF THREE DIMENSIONAL FIGURES



### Exercise 4.1

	<p>Use the <math>\pi</math> – key on your calculator</p> <p>File all your work behind this page.</p>
<p>1. The edge length of a cube is 20 cm.</p> <p>What is the volume?</p>	<p>2. The edge length of a cube is 43 mm.</p> <p>What is the volume?</p>
<p>3. The edge length of a cube is 15 cm.</p> <p>What is the volume?</p>	<p>4. The edge length of a cube is 18 mm.</p> <p>What is the volume?</p>
<p>Find the volume of each figure. Round answers to three decimals, if necessary.</p>	
<p>1.</p> 	<p>2.</p> 
<p>3.</p> 	<p>4.</p> 
<p>Calculate the volume of the following cylinders.</p>	
<p>1.</p> 	<p>2.</p> 
<p>3.</p> 	<p>4.</p> 

## Exercise 4.2


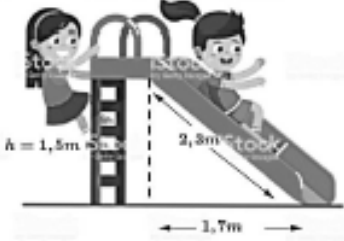
	<p>Use the <math>\pi</math> – key on your calculator File all your work behind this page.</p>	
<p>1. The edge length of a cube is 10 <i>cm</i>. What is the volume?</p>	<p>2. The edge length of a cube is 33 <i>mm</i>. What is the volume?</p>	
<p>3. The edge length of a cube is 17 <i>cm</i>. What is the volume?</p>	<p>4. The edge length of a cube is 30 <i>mm</i>. What is the volume?</p>	
<p>Find the volume of each figure. Round answers to three decimals.</p>		
<p>1. </p>	<p>2. </p>	
<p>3. </p>	<p>4. </p>	
<p>Calculate the volume of the following cylinders.</p>		
<p>1. </p>	<p>2. </p>	

### Exercise 4.3

	<p>Read the word problems and answer the questions.</p> <p>File all your work behind this page.</p>
1.	<p>Jonah is going to put tiles on the floor of his house. The length of the house is <math>12\text{ m}</math> and the breadth of the house is <math>10\text{ m}</math>.</p> <p>The tiles are <math>0,5\text{ m} \times 0,5\text{ m}</math>.</p> <p>Answer the following questions:</p> <ul style="list-style-type: none"><li>(i) Pick the correct word: the house is a (square / rectangle).</li><li>(ii) Pick the correct word: the tile is a (square / rectangle).</li><li>(iii) Calculate the perimeter of the house.</li><li>(iv) Calculate the area of the house.</li><li>(v) Calculate the perimeter of the tile.</li><li>(vi) Calculate the area of the tile.</li><li>(vii) How many tiles will he use?</li></ul>
2.	<p>Zizopho works at a play school where she takes care of young children while the parents are at work. She has asked a friend to build a sandpit for the school so that the children can play in the sand.</p>  <p>The measurements of the sandpit are the following:</p> <ul style="list-style-type: none"><li>• Length = <math>1,75\text{ m}</math></li><li>• Breadth = <math>1,5\text{ m}</math></li><li>• Height = <math>0,4\text{ m}</math></li></ul>

Answer the following questions:

- (i) Calculate the perimeter of the sandpit.
- (ii) Calculate the area of the sandpit.
- (iii) Calculate the volume of the sandpit.
- (iv) If she wants to fill the sandpit so that the top  $10\text{ cm}$  does not have sand in it, calculate the volume of sand she needs to get.

3.	<p>At another playschool, they have a round sandpit.</p> <p>The diameter of the sandpit is 2,1 m and it is 40 cm high.</p> <p>Answer the following questions:</p> <p>(v) Calculate the perimeter of the sandpit.</p> <p>(vi) Calculate the area of the sandpit.</p> <p>(vii) Calculate the volume of the sandpit.</p> <p>(viii) If she wants to fill the sandpit so that the top 10 cm does not have sand in it, calculate the volume of sand she needs to get.</p>	
4.	<p>The playschool has a slide for the children.</p> <p>As you can see, it has the shape of a triangle.</p> <p>(i) Calculate the perimeter of the triangle.</p> <p>(ii) Calculate the area of the triangle.</p>	
5.	<p>The stuffed part of the back seat in a taxi 130 cm long, 50 cm wide and 40 cm thick (height.)</p> <p>For the back seat, do the following calculations:</p> <p>(i) Calculate the perimeter of the seat.</p> <p>(ii) Calculate the area of the seat.</p> <p>(iii) Calculate the volume of upholstery foam (stuffing inside the seat) needed.</p> <p>The back rest of the seat is also 130 cm long, 50 cm wide but only 10 cm thick (height.)</p> <p>(i) Calculate the perimeter of the back rest.</p> <p>(ii) Calculate the area of the back rest.</p> <p>(iii) Calculate the volume of upholstery foam (stuffing inside the back rest) needed.</p>	