

PLANNER & TRACKER FOR RECOVERY ANNUAL TEACHING PLAN (ATP)



MATHEMATICS

GRADE 7 TERM 4

2021

Helping teachers and learners to catch up with learning losses, master new content and acquire skills for the future.



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ABOUT THE PLANNER AND TRACKER

This 2021 Revised Recovery Curriculum and Assessment Planner and Tracker is provided by the National Education Collaboration Trust (NECT) on behalf of the Department of Basic Education (DBE)! We hope that this programme provides you with additional skills, methodologies and content knowledge that you can use to teach your learners more effectively.

WHAT IS NECT?

In 2012 our government launched the National Development Plan (NDP) to eliminate poverty and reduce inequality by the year 2030. Improving education is an important goal in the NDP which states that 90% of learners will pass Maths, Science and languages with at least 50% by 2030. This is an ambitious goal for the DBE to achieve on its own, so the NECT was established in 2015 to assist in improving education.

The NECT has successfully brought together groups of people interested in education so that we can work collaboratively to improve education. These groups include the teacher unions, businesses, religious groups, trusts, foundations and NGOs.

PURPOSE OF PLANNER AND TRACKER

- 1) To mediate the amendments of the trimmed and re-organised 2021 Annual Teaching Plan including School-Based Assessments for Mathematics Grade 7.
- 2) To ensure that meaningful teaching continues during the remaining teaching time as per the school calendar for TERM 4.
- 3) To assist teachers with guided pacing and sequencing of curriculum content and assessment.
- 4) To enable teachers to cover the core skills and knowledge in each grade within the available time.
- 5) To assist teachers with planning for the different forms of assessment.
- 6) To ensure learners are adequately prepared for the subsequent year/s in terms of skills, knowledge, attitudes and values.

PREAMBLE

It must be emphasized that Term 1, term 2 and term 3 content coverage by teachers were impacted by COVID-19. Schools were particularly disrupted by the fact that learners only attended school for 50% of the time and had to endure variations of the rotation system implemented in the schools. Disruption in schools has also meant disruption in different forms of assessment, so it has been hard to fully pin down exactly how much the school closures and transitions in and out of virtual learning have affected students' mathematical learning, but the evidence so far does not bode well.

Curriculum coverage in term 1, 2 and 3, must be viewed and implemented in term 4, in the light of some contextual realities that includes the following:

- 1) 2020 was an abnormal year in terms of content coverage. Learners have progressed to a higher grade level without learning all the core skills required for that grade.
- 2) Some learners were not in school for most of 2020 and perhaps part of 2021.
- 3) Mathematics is almost always formally learned at school. Many of our parents are often less well-equipped to help their children with mathematics, at a time when parent support can be even more crucial to student progress. This means that the burden falls directly on our teachers.

- 4) Broader stress and trauma related to the pandemic may worsen existing mathematics anxiety in some students, and mathematics anxiety can exacerbate students' other stress while in class.

Awareness of the above challenges and the consequent assumptions that emerge out of it, is crucial for the implementation of the Revised ATPs emphasizing the recovery of skills not yet mastered in mathematics. This Planner and Tracker is in alignment with the theme of recovery of skills not learnt and covers the following:

- 1) aims to ensure that the critical skills, knowledge, values and attitudes outlined in the ATPs are covered over this time period.
- 2) Curriculum Reorganisation and Trimming for this term purports to reduce the envisaged curriculum to manageable core content , skills, knowledge, attitudes and values to enhance deep and meaningful learning.
- 3) Create opportunities through adjusted ATPs to strengthen pre-knowledge, consolidation, revision, and deeper learning.
- 4) The Planner and Tracker clearly define the core knowledge, skills, attitude to be taught and assessed more specifically to guide and support teachers.
- 5) It also aligns curriculum content and assessment to the available teaching time. Entrench assessment for learning as a Pedagogical Approach to address the learning losses.
- 6) Be used as planning tool to inform instruction during the remaining school terms.

ADJUSTED SCHOOL CALENDAR

SCHOOL TERMS	DATES	TEACHING DAYS
Term 1	15 February - 23 April	50(10 weeks)
Term 2	3 May – 9 July	50(10 weeks)
Term 3	26 July – 01 October	50(10 weeks)
Term 4	11 Oct - 15 Dec	48(10 weeks)

NOTES:

- TEACHING APPROACH in this term assumes that ALL learners are attending schools and the Rotation system may not be implemented meaning that schools may implement normal timetable.
- NECT TERM 4 Planner and Tracker has 48 teaching and learning days, of which 15 days are used for formative and summative Assessment days.
- NECT Term 4 Planner and Tracker focuses on Deep learning through assessment for learning - There is no time for assessment that does not inform the way forward. Teachers should consolidate, revise and remediate through error analysis that leads to skills mastery.

MANAGING TIME ALLOCATED IN THE TRACKER

- The tracker for each term contains details of work to be covered over 60 lessons per term, six per week for ten weeks.
- The CAPS prescribes **four and a half hours** of Mathematics per week in Grade 7.
- Each school will organise its timetable differently, so the programme of lessons is based on work in the Learner's Book and DBE workbook, which should take just about an hour per day to complete. Perhaps, at end of week 30 minutes – will be great if this is also an hour.

- You might have to divide the sessions in the programme slightly differently to accommodate the length of the lessons at your school.
- Depending on the pace at which your learners work, and how much support is needed,
- you might also have to supplement the set activities by using other resources to ensure that the full four and a half hours allocated to teaching Mathematics is used constructively.
- The breakdown of work to be done each week corresponds to the ‘annual teaching plan and programme of assessment’ drawn up by the Provincial Department of Education; however, the tracker gives a more detailed outline of what should be taught each day.
- This tracker is designed for a term that is 10 weeks long.
- In most weeks, one lesson is set aside – at the end of the week - for you to catch up on work not done in the previous four lessons, or to provide remedial support or enrichment.
- The formal teaching programme, the project, some revision, and the term test should be completed by the end of Week 9.

REMEMBER: The teacher should employ group teaching based on principles of differentiation – cater for the needs of every learner by making sure every learner masters the fundamental skills in mathematics. The teacher is also mindful to plan well for effective assessment for learning to inform the remediation and teaching, through the skills mastery approach applied in this Planner and Tracker.

LINKS TO THE DBE WORKBOOKS

The tracker gives links to worksheets in the DBE workbooks relevant to the content described for each day. The worksheets are referred to by worksheet number and page number. These workbooks should be used in conjunction with the Learner’s Book activities. You should review the suggested worksheets before each lesson and decide how best to use them – for teaching, revision, extension or consolidation, in class or for homework.

TEACHING TIME

Since there are **4 and $\frac{1}{2}$** hours allocated for Mathematics per week, the following is a suggested plan for daily lessons.

WEEK: 4 and $\frac{1}{2}$ hours	
Consolidation of Concepts – skills mastery and other	10 min
New Concept – class activity	50 min

CONTENT COVERAGE

TERM 4	Week 1 4 days	Week 2 5 days	Week 3 5 days	Week 4 5 days	Week 5 5 days	Week 6 5 days	Week 7 5 days	Week 8 5 days	Week 9 5 days	Week 10 3 days			
Hours per week	3.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	2.5 hrs			
Hours per topic	8 hrs.		9 hrs.			9 hrs.		9 hrs		4.5 hrs	3 hrs		
Topics, concepts and skills	AREA AND PERIMETER OF 2D SHAPES Area and perimeter <ul style="list-style-type: none"> Calculate the perimeter of regular and irregular polygons Use appropriate formulae to calculate perimeter and area of: <ul style="list-style-type: none"> squares rectangles triangles Calculations and solving problems <ul style="list-style-type: none"> Solve problems involving perimeter and area of polygons Calculate to at least 1 decimal place Use and convert between appropriate SI units, including: <ul style="list-style-type: none"> $\text{mm}^2 \leftrightarrow \text{cm}^2$ $\text{cm}^2 \leftrightarrow \text{m}^2$ 		SURFACE AREA AND VOLUME OF 3D OBJECTS Surface area and volume <ul style="list-style-type: none"> Use appropriate formulae to calculate the surface area, volume and capacity of: <ul style="list-style-type: none"> cubes rectangular prisms Describe the interrelationship between surface area and volume of the objects mentioned above Calculations and solving problems <ul style="list-style-type: none"> Solve problems involving surface area, volume and capacity Use and convert between appropriate SI units, including: <ul style="list-style-type: none"> $\text{mm}^2 \leftrightarrow \text{cm}^2$ $\text{cm}^2 \leftrightarrow \text{m}^2$ $\text{cm}^3 \leftrightarrow \text{m}^3$ Use equivalence between units when solving problems: <ul style="list-style-type: none"> $1 \text{ cm}^3 \leftrightarrow 1 \text{ ml}$ $1 \text{ m}^3 \leftrightarrow 1 \text{ k}$ 			DATA HANDLING: Collect data; PROVIDE LEARNERS WITH DATA TO SAVE TIME <ul style="list-style-type: none"> Pose questions relating to social, economic, and environmental issues in own environment Select appropriate sources for the collection of data (including peers, family, newspapers, books, magazines) Distinguish between samples and populations and suggest appropriate samples for investigation Design and use simple questionnaires to answer questions with: <ul style="list-style-type: none"> yes/no type responses multiple choice responses Organize and summarize data <ul style="list-style-type: none"> Organize (including grouping where appropriate) and record data using <ul style="list-style-type: none"> tally marks tables stem-and-leaf displays Group data into intervals Summarize and distinguish between ungrouped numerical data by determining: <ul style="list-style-type: none"> mean median mode Identify the largest and smallest scores in a data set and determine the difference between them in order to determine the spread of the data (range) Represent data <ul style="list-style-type: none"> Draw a variety of graphs by hand/technology to display and interpret data (grouped and ungrouped) including: <ul style="list-style-type: none"> bar graphs and double bar graphs histograms with given intervals pie charts Interpret data <ul style="list-style-type: none"> Critically read and interpret data represented in: <ul style="list-style-type: none"> words bar graphs double bar graphs pie charts histograms 		REVISION OF TERM 3 AND 4 WORK		FORMAL ASSESSMENT TASK TEST All Term 3 & 4 topics		FORMAL ASSESSMENT TASK TEST All Term 3 & 4 topics	
CORE QUESTIONS	DID ALL LEARNERS MASTER TERM 1 AND TERM 2 SKILLS?		DID ALL LEARNERS MASTER TERM 3 SKILLS?			NEW CONCEPTS/CONTENT							

RECOMMEN- DATION	<ol style="list-style-type: none"> Implement at least two Skills Mastery (SM) formative assessments every week. Consolidation of Concepts – 10 minutes – twice a week apply 5-item SM assessments. Teacher – can use SM as individual, pair, small group, or whole class activity. Aim – to consolidate, remediate and work towards mastery. Record – monitor learners who have learning gaps in the REFLECTION section of the Tracker 	NEW CONCEPTS/CONTENT
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WEEKLY PLANNER AND TRACKER

RECOMMENDATION

BASELINE TERM 4: Implement DBE Diagnostic – see exemplar in Planner and Tracker – or any similar diagnostic – Based on term 1, term 2 and term 3 core skills. Teachers are encouraged to use the exemplar, based on what content they have completed. Meaning teachers can select different items in the diagnostic for their purposes.

WHEN: Day 1, allow learners to complete individually and/or work with ability groups based on your classroom context. Day 2 is set aside for remediation purposes.

NUMBER OF ITEMS: Grade 7 = 20 items – depending on your context and ability groups

ITEM BANK: Items can be from previous:

- 1) BASELINE/READINESS assessment, 2) Assessment Resources in this TRACKER or 3) the DBE Item Bank and 4) PREPARATION: Test, Marking Guideline/s, Marksheet and apparatus.

11 – 15 October 2021

Week 1					
Lesson	ATP Content	concepts, skills	DBE workbook	Resources	Date
1		Baseline: (Revision, consolidation of term 1,2 & 3 skills)			
2		Baseline: Remediation – error analysis			
3	AREA AND PERIMETER OF 2D SHAPES Area and perimeter: Calculate the perimeter of regular and irregular polygons Use appropriate formulae to calculate perimeter and area of:– squares– rectangles – triangles	Calculate perimeter of regular and irregular shapes	Bk 1 No. R12 (pp. xxxviii & xxxix)		
4	AREA AND PERIMETER OF 2D SHAPES Area and perimeter: Calculate the perimeter of regular and irregular polygons Use appropriate formulae to calculate perimeter and area of:– squares– rectangles – triangles	Calculate perimeter of regular and irregular shapes	Bk 1 No. 52 (pp. 118 & 119)		
5	AREA AND PERIMETER OF 2D SHAPES Area and perimeter: Calculate the perimeter of regular and irregular polygons Use appropriate formulae to calculate perimeter and area of:– squares– rectangles – triangles	Calculate area of triangles using rectangles Calculate area of triangles using formula	Bk 1 No. 53 (pp. 120 & 121)		
Notes for the teacher.					
<ol style="list-style-type: none"> 1. The Baseline Assessment can be administered one-on one or to a group of at least 5 learners at a time – it is an assessment FOR learning. 2. The onus is on the teacher to prepare substantial activities for the rest of the learners while the Baseline Assessment is being administered. 3. Prepare well - study the Baseline Assessment i.e. familiarise yourself with the apparatus and templates that must be used. 					
Reflection					

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: <ul style="list-style-type: none"> • Calculate perimeter of regular and irregular shapes • Calculate area of triangles using rectangles • Calculate area of triangles using formula 	What will you change next time? Why?
	Struggling Learners Names:
	HOD: _____ Date: _____

18 - 22 October 2021

Week 2					
Lesson	ATP Content	concepts, skills	DBE workbook	Resources	Date
6	AREA AND PERIMETER OF 2D SHAPES Calculations and solving problems: Solve problems involving perimeter and area of polygons Calculate to at least 1 decimal place Use and convert between appropriate SI units, including:– mm ² ↔ cm ² , – cm ² ↔ m ²	Measure and calculate areas of triangles Draw triangles to calculate area	Bk 1 No. 54 (pp. 122)		
7	AREA AND PERIMETER OF 2D SHAPES Calculations and solving problems: Solve problems involving perimeter and area of polygons Calculate to at least 1 decimal place Use and convert between appropriate SI units, including:– mm ² ↔ cm ² , – cm ² ↔ m ²	Measure and calculate areas of triangles Draw triangles to calculate area	Bk 1 No. 54 (pp. 123)		
8	AREA AND PERIMETER OF 2D SHAPES Calculations and solving problems: Solve problems involving perimeter and area of polygons Calculate to at least 1 decimal place Use and convert between appropriate SI units, including:– mm ² ↔ cm ² , – cm ² ↔ m ²	Convert between SI units	Bk 1 No. 55 (pp. 124)		
9	AREA AND PERIMETER OF 2D SHAPES Calculations and solving problems: Solve problems involving perimeter and area of polygons Calculate to at least 1 decimal place Use and convert between appropriate SI units, including:– mm ² ↔ cm ² , – cm ² ↔ m ²	Convert between SI units	Bk 1 No. 55 (pp. 125)		
10	Assessment Activity: Consolidate and revise – use SM Activities				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: <ul style="list-style-type: none"> • Measure and calculate areas of triangles • Draw triangles to calculate area • Convert between SI units 	What will you change next time? Why?
	Struggling Learners Names?
	HOD: _____ Date: _____

25 – 29 October 2021

Week 3					
Lesson	ATP content	concepts, skills	DBE workbook	Resources	Date
11	SURFACE AREA/VOLUME OF 3D OBJECTS Surface area and volume: Use appropriate formulae to calculate the surface area, volume and capacity of: – cubes– rectangular prisms Describe the interrelationship between surface area and volume of the objects mentioned above	Counting cubes in a block Label and count cubes in cubes and rect. Prisms Draw the cube with given dimensions	Bk 1 No. 56 (pp. 126 & 127)		
12	SURFACE AREA/VOLUME OF 3D OBJECTS Surface area and volume: Use appropriate formulae to calculate the surface area, volume and capacity of: – cubes– rectangular prisms Describe the interrelationship between surface area and volume of the objects mentioned above	Describe the difference between volume and capacity Determine the formula to calculate volume of cubes	Bk 1 No. 57a (pp. 128 & 129)		
13	SURFACE AREA/VOLUME OF 3D OBJECTS Surface area and volume: Use appropriate formulae to calculate the surface area, volume and capacity of: – cubes– rectangular prisms Describe the interrelationship between surface area and volume of the objects mentioned above	Describe the difference between volume and capacity Determine the formula to calculate volume of cubes Convert across SI units	Bk 1 No. 57b (pp. 130 & 131)		
14	SURFACE AREA/VOLUME OF 3D OBJECTS Surface area and volume: Use appropriate formulae to calculate the surface area, volume and capacity of: – cubes– rectangular prisms Describe the interrelationship between surface area and volume of the objects mentioned above	Count cubes in a rect. prism Determine the formula of differently shaped buildings Derive formula Apply formula	Bk 1 No. 58 (pp. 132 & 133) No. 59 (pp. 134 & 135)		
15	Assessment Activity: Consolidate and revise — use SM Activities				
Reflection					
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: <ul style="list-style-type: none"> • Counting cubes in a block • Label and count cubes in cubes and rect. Prisms • Draw the cube with given dimensions • Describe the difference between volume and capacity • Determine the formula to calculate volume of cubes • Convert across SI units • Count cubes in a rect. prism 		What will you change next time? Why? Struggling Learners names:			

- Determine the formula of differently shaped buildings
- Derive formula for Volume
- Apply formula for volume

HOD:

Date:

1 – 5 November 2021

Week 4					
Day	ATP Content	CAPS content, concepts, skills	DBE workbook	Resources	Date
16	SURFACE AREA/VOLUME OF 3D OBJECTS Calculations and solving problems: Solve problems involving surface area, volume and capacity Use and convert between appropriate SI units, including:- mm ² ↔ cm ² – cm ² ↔ m ² – mm ³ ↔ cm ³ – cm ³ ↔ m ³ Use equivalence between units when solving problems:- 1 cm ³ ↔ 1 ml – 1 m ³ ↔ 1 kl	Calculate volume in real contexts	Bk 1 No 60 (pp. 136 & 137)		
17	SURFACE AREA/VOLUME OF 3D OBJECTS Calculations and solving problems: Solve problems involving surface area, volume and capacity Use and convert between appropriate SI units, including:- mm ² ↔ cm ² – cm ² ↔ m ² – mm ³ ↔ cm ³ – cm ³ ↔ m ³ Use equivalence between units when solving problems:- 1 cm ³ ↔ 1 ml – 1 m ³ ↔ 1 kl	Calculate volume in real contexts Connecting volume and capacity to equivalence between units Converting units Define units of measure for volume	Bk 1 No 61 (pp. 138 & 139)		
18	SURFACE AREA/VOLUME OF 3D OBJECTS Calculations and solving problems: Solve problems involving surface area, volume and capacity Use and convert between appropriate SI units, including:- mm ² ↔ cm ² – cm ² ↔ m ² – mm ³ ↔ cm ³ – cm ³ ↔ m ³ Use equivalence between units when solving problems:- 1 cm ³ ↔ 1 ml – 1 m ³ ↔ 1 kl	Calculate surface areas Draws nets to determine surface areas Calculate volume	Bk 1 No 62 (pp. 140 & 141) No 63 (pp. 142 & 143)		
19	SURFACE AREA/VOLUME OF 3D OBJECTS Calculations and solving problems: Solve problems involving surface area, volume and capacity Use and convert between appropriate SI units, including:- mm ² ↔ cm ² – cm ² ↔ m ² – mm ³ ↔ cm ³ – cm ³ ↔ m ³ Use equivalence between units when solving problems:- 1 cm ³ ↔ 1 ml – 1 m ³ ↔ 1 kl	Solve volume problems in real contexts	Bk 1 No 64 (pp. 144 & 145)		
20	Assessment Activity: Consolidate and revise – use SM Activities				
Reflection					

<p>DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO:</p> <ul style="list-style-type: none"> • Calculate volume in real contexts • Connecting volume and capacity into equivalence between units • Converting units • Define units of measure for volume • Calculate surface areas • Draws nets to determine surface areas • Calculate volume • Solve volume problems in real contexts 	<p>What will you change next time? Why?</p> <p>Struggling Learners Names:</p>
	<p>HOD: _____ Date: _____</p>

8 – 12 October 2021

Week 5					
Day	ATP Content	concepts, skills	DBE workbook	Resources	Date
21	DATA HANDLING Revision	Review data handling cycle Answer questions using a pictograph sort data using a frequency table use frequency table to draw a pie chart	Bk 1 No. R16 (pp. xlviii & xlix)		
22	DATA HANDLING Collect Data: Pose questions - Select appropriate sources for the collection of data - Distinguish between samples and populations and suggest appropriate samples for investigation- Design and use simple questionnaires to answer questions with:- yes/no type responses - multiple choice responses	Draw up a hypothesis and collect data. Describe primary data and secondary data Design a questionnaire	Bk 2 No. 126a (pp. 136 & 137) No. 126b (pp. 138 & 139)		
23	DATA HANDLING Organize and summarize data Organize (including grouping where appropriate) and record data using - tally marks- tables- stem-and-leaf displays Group data into intervals Summarize and distinguishing between ungrouped numerical data by determining:- mean- median- mode Identify the largest and smallest scores in a data set and determine the difference between them in order to determine the spread of the data (range)	Use tallies to organise data Draw frequency tables Draw Stem-and-leaf tables	Bk 2 No 127a (pp. 140 & 141) No. 127b (pp. 142 & 143)		
24	DATA HANDLING Organize and summarize data	Summarise data Calculate the range of the data	Bk 2 No 128a (pp. 144 & 145)		

	Organize (including grouping where appropriate) and record data using – tally marks– tables– stem-and-leaf displays Group data into intervals Summarize and distinguishing between ungrouped numerical data by determining:– mean– median– mode Identify the largest and smallest scores in a data set and determine the difference between them in order to determine the spread of the data (range)	Find the mean, median and mode of the different data sources	Bk 2 No. 128b (pp. 146 & 147)		
25	Assessment Activity: Consolidate and revise – use SM Activities				
Reflection					
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO:			What will you change next time? Why?		
<ul style="list-style-type: none"> • Review data handling cycle • Answer questions using a pictograph • sort data using a frequency table • use frequency table to draw a pie chart • Draw up a hypothesis and collect data. • Describe primary data and secondary data • Design a questionnaire • Use tallies to organise data • Draw frequency tables • Draw Stem-and-leaf tables • Summarise data • Calculate the range of the data • Find the mean, median and mode of the different data sources 			Struggling Learner names:		
			HOD:		Date:

15 – 19 November 2021

Week 6					
Day	ATP Content	concepts, skills	DBE workbook	Resources	Date
26	DATA HANDLING Represent data Draw a variety of graphs by hand/ technology to display and interpret data (grouped and ungrouped) including:– bar graphs and double bar graphs– histograms with given intervals– pie charts Interpret data: Critically read and interpret data represented in:– words– bar graphs – double bar graphs- pie charts – histograms Analyse data: Critically analyse data by answering questions related to:– data categories, including data intervals– data sources and	Draw the bar graph Answer questions relating to the graph Interpret the bar-graph	Bk 2 No. 129a (pp. 148 & 149) No. 129b (pp. 150 & 151)		

	contexts– central tendencies (mean, mode, median)– scales used on graphs				
27	<p>DATA HANDLING</p> <p>Represent data</p> <p>Draw a variety of graphs by hand/technology to display and interpret data (grouped and ungrouped) including:– bar graphs and double bar graphs– histograms with given intervals– pie charts</p> <p>Interpret data:</p> <p>Critically read and interpret data represented in:– words– bar graphs – double bar graphs- pie charts – histograms</p> <p>Analyse data: Critically analyse data by answering questions related to:– data categories, including data intervals– data sources and contexts– central tendencies (mean, mode, median)– scales used on graphs</p>	<p>Describe the double bar</p> <p>Draw the double bar graph</p> <p>Answer questions relating to the graph</p> <p>Interpret the double-bar graph</p>	<p>Bk 2</p> <p>No. 130a (pp. 152 & 153)</p> <p>No. 130b (pp. 154 & 155)</p>		
28	<p>DATA HANDLING</p> <p>Represent data</p> <p>Draw a variety of graphs by hand/technology to display and interpret data (grouped and ungrouped) including:– bar graphs and double bar graphs– histograms with given intervals– pie charts</p> <p>Interpret data:</p> <p>Critically read and interpret data represented in:– words– bar graphs – double bar graphs- pie charts – histograms</p> <p>Analyse data: Critically analyse data by answering questions related to:– data categories, including data intervals– data sources and contexts– central tendencies (mean, mode, median)– scales used on graphs</p>	<p>Describe the histogram</p> <p>Draw the histogram graph</p> <p>Answer questions relating to the graph</p> <p>Interpret the histogram graph</p>	<p>Bk 2</p> <p>No. 131a (pp. 156 & 157)</p> <p>No. 131b (pp. 158 & 159)</p> <p>No. 132a (pp. 160 & 161)</p> <p>No 132b (pp. 162 & 163)</p>		
29	<p>DATA HANDLING</p> <p>Represent data</p> <p>Draw a variety of graphs by hand/technology to display and interpret data (grouped and ungrouped) including:– bar graphs and double bar graphs– histograms with given intervals– pie charts</p> <p>Interpret data:</p> <p>Critically read and interpret data represented in:– words– bar graphs – double bar graphs- pie charts – histograms</p>	<p>Describe the pie chart</p> <p>Draw the pie chart</p> <p>Answer questions relating to the pie chart</p> <p>Interpret the pie chart</p> <p>Report data</p>	<p>Bk 2</p> <p>No. 133 (pp. 164 & 165)</p> <p>No. 134 (pp. 166 & 167)</p>		

	Analyse data: Critically analyse data by answering questions related to:– data categories, including data intervals– data sources and contexts– central tendencies (mean, mode, median)– scales used on graphs				
30	DATA HANDLING Report data Summarize data in short paragraphs that include– drawing conclusions about the data– making predictions based on the data– identifying sources of error and bias in the data– choosing appropriate summary statistics for the data (mean, median, mode)	Draw conclusions Make predictions Apply data cycle to for data to answer hypothesis	Bk 2 No. 135 (pp. 170 & 171) No. 136 (pp. 172 & 173)		
Reflection					
<p>DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO:</p> <ul style="list-style-type: none"> • Draw the bar graph • Answer questions relating to the graph • Interpret the bar-graph • Describe the double bar • Draw the double bar graph • Answer questions relating to the graph • Interpret the double-bar graph • Describe the histogram • Draw the histogram graph • Answer questions relating to the histogram • Interpret the histogram graph • Describe the pie chart • Draw the pie chart • Answer questions relating to the pie chart • Interpret the pie chart • Report data • Draw conclusions • Make predictions • Apply data cycle to for data to answer hypothesis 		<p>What will you change next time? Why?</p> <p>Struggling Learners Names:</p> <hr/> <p>HOD: _____ Date: _____</p>			

22 – 26 November 2021

Week 7					
Day	ATP Content	concepts, skills	DBE workbook	Resources	Date
31	Consolidation assessment 1				
32	Remediation				
33	Skills Mastery assessments 11 and 12				

34	Consolidation assessment 2				
35	Remediation				
Reflection					Assessment a understood and
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT ARE THEY ABLE TO MASTER:		What will you change next time? Why?			
•		Struggling Learners Names:			
		HOD:		Date:	

29 November – 3 December 2021

Week 8					
Day	ATP content	concepts, skills	DBE workbook	Resources	Date
36	Consolidation assessment 3				
37	Remediation				
38	Skills Mastery assessments – selected items from term 3				
39	Consolidation assessment 4				
40	Remediation				
Reflection					
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT SKILLS ARE THEY ABLE TO MASTER?		What will you change next time? Why?			
		Struggling Learners Names:			
		HOD:		Date:	

6 – 10 December 2021

Week 9					
Day	ATP content	concepts, skills	DBE workbook	Resources	Date
41	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
42	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				

43	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
44	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
45	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
Reflection					
		What will you change next time? Why?			
		HOD:		Date:	

13 – 15 December 2021 (three-day week)

Week 10					
Day	ATP content	concepts, skills	DBE workbook	Resources	Date
46	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
47	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
48	FORMAL ASSESSMENT TASK TEST – term 3 and 4 concepts				
49					
50					
Reflection					
Identify some skills that need revising during the next term in 2022		What will you change next time? Why?			
		Struggling Learners Names:			

ASSESSMENT RATIONALE AND RESOURCES

Assessment Term Plan

The assessment term plan gives an overview of

- 1) how the formal and informal assessment programme fits into the weekly lesson plans.
- 2) How the skills mastery assessments fit into the weekly lesson plans

Note:

- There are ONE FORMAL Assessment tasks: 1) Test

- The Skills mastery assessments – aimed at consolidating, revising and remediating skills already covered this year - are added at the end of the document.

Written assessment tasks are to be selected and marked by teachers in appropriate lessons according to the lesson plans. Teachers may wish to group the items or use them individually.

Week	Skills Mastery Activities (Tuesdays and Thursdays)	Formative Assessment Activities: Aimed to enhance Revision Programme
1	Baseline Assessment	Baseline Assessment
2	Tuesday Skills mastery Assessment 1 Thursday Skills mastery Assessment 2	
3	Tuesday Skills mastery Assessment 3 Thursday Skills mastery Assessment 4	
4	Tuesday Skills mastery Assessment 5 Thursday Skills mastery Assessment 6	
5	Tuesday Skills mastery Assessment 7 Thursday Skills mastery Assessment 8	
6	Tuesday Skills mastery Assessment 9 Thursday Skills mastery Assessment 10	
7	Lesson 3 Skills mastery Assessment 11 Skills mastery Assessment 12	Lesson 1 and 2: Consolidation Assessment 1 plus Remediation Lesson 4 and 5: Consolidation Assessment 2 plus Remediation
8	Select SMA assessments – teacher choice	Lesson 1 and 2: Consolidation Assessment 1 plus Remediation Lesson 4 and 5: Consolidation Assessment 2 plus Remediation
9		FORMAL ASSESSMENT TASK – Test
10		FORMAL ASSESSMENT TASK – Test

Exemplar Written Assessment ITEMS with marking memos.

The exemplar items can be used as a diagnostic pre-assessment, but can be used, later in the term, as a post-assessment to monitor learning.

The skills mastery items can be used as a secondary assessment, both to monitor progress in learning skills and mastery of skills. For example, the teacher can select 5 items from the first three

Skills Mastery Assessments (a selection from 15 items) and use it for end of week assessments. End-of-week days have been planned for this purpose, as well as for consolidating the learning of the week’s content.

- Written assessments is to be done in addition to oral and practical assessment to carry out meaningful continuous assessment throughout the term.
- You need to plan when you will do a written assessment. We suggest you do it at the end-of week.
- The questions provided in the exemplar and Skills Mastery Assessments are taken from past written assessment papers and assessments generally, that were previously in the lesson plans. We suggest you use selected items as smaller written assessment tasks. This aligns better with the curriculum objective of continuous assessment.
- There is one lesson “slot” per week that is assigned for you to catch up or consolidate the lesson plan content covered in the week’s lessons. This lesson should also be used for the purpose of carrying out written assessment tasks or to complete oral or practical tasks for that week.

ITEM BANK FOR BASELINE: EXEMPLAR

Surname:	Date: _____
Name:	
Date of birth:	

<p>INSTRUCTIONS TO LEARNERS:</p> <ol style="list-style-type: none"> 1. Answer all questions in the spaces provided. 2. Write neatly and show all calculations. 3. No calculators or cell phones allowed.
--

DURATION: 60 MINUTES

SECTION A: MULTIPLE CHOICE

(5 marks)

There are **five** multiple choice questions in Section A. For each question **four** possible answers are given and only **one** answer is correct. For each multiple choice question **circle the letter of the correct answer** to indicate your choice.

Example: $7 \times 15 =$ _____

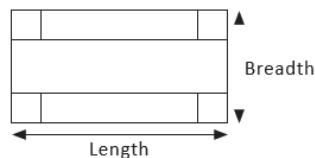
- A 105 B 110 C 115 D 120

1. Which list shows ALL the factors of 52?

A. 1; 2; 3; 4; 13; 52	B. 1; 2; 4; 13; 26; 52
C. 1; 2; 3; 13; 26; 52	D. 1; 2; 5; 52

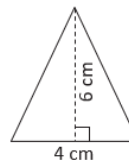
2. Which one is the formula for finding the perimeter of a rectangle?

- A: Perimeter = length x breadth
- B: Perimeter = length + breadth
- C: Perimeter = 2 x length + breadth
- D: Perimeter = 2 x (length + breadth)



3. The area of this triangle is

- A: 24 cm²
- B: 12 cm²
- C: 10 cm²
- D: 6 cm²



4. This table shows a relationship between p and t . Which of the equations below shows the same relationship?

p	1	2	3	4
t	6	8	10	12

- A: $t = 6p$
- B: $t = 5p$
- C: $t = 2p + 4$
- D: $t = 2p + 6$

5. What is a parallelogram with at least one angle equal to 90° called?

- A: kite
- B: rhombus
- C: trapezium
- D: rectangle

SECTION B: ANSWER ALL THE QUESTIONS

NUMBERS AND OPERATIONS

(17 marks)

6. Complete the table below

(2)

Common fraction	Decimal fraction	Percentage
$\frac{23}{100}$	a) _____	23%
$\frac{6}{10}$	0,6	b) _____

7. What is the place value of the underlined digit in 534,86? _____

(1)

8. Write down the integer which is:

(2)

a) 7 greater than - 3

b) 8 less than 3

9. Calculate

a) $6,5 - 2,34$

(2) b) $3,7 \times 1,4$

(3)

10. Calculate

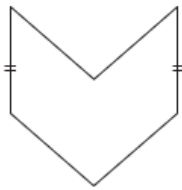
a) $-18 - 13$

(1) b) $8 + (-27)$

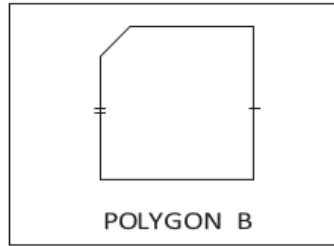
(1)

SHAPE AND SPACE

20. Study the two polygons and then answer the questions.



POLYGON A



POLYGON B

- a) What type of polygon is Polygon A? _____ (1)
- b) What type of polygon is Polygon B? _____ (1)
- c) Is Polygon A a regular or irregular polygon? _____ (1)
- d) Is Polygon B a regular or irregular polygon? _____ (1)
- e) Use a ruler to draw in all line(s) of symmetry on each polygon. _____ (2)

21. Give the names of the following geometric shapes:

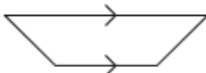


Fig A

a) _____ (1)

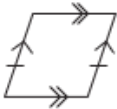


Fig B

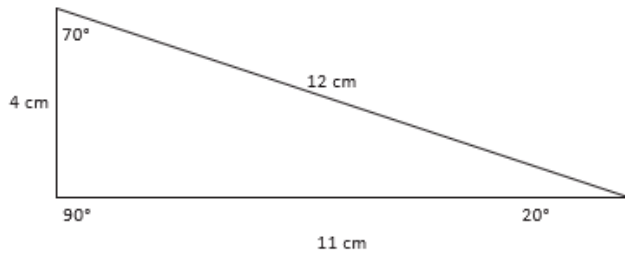
b) _____ (1)



Fig C

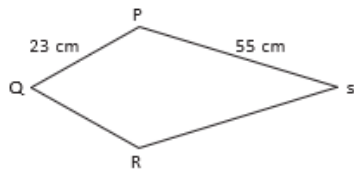
c) _____ (1)

22. Study the following triangle:



- a) Name the triangle according to the sizes of its angles _____ (1)
- b) Name the triangle according to the lengths of its sides _____ (1)

23. PQRS is a KITE. PQ = 23 mm and PS = 55 mm.




- a) What is the length of QR?
QR = _____ (1)
- b) What is the length of RS?
RS = _____ (1)

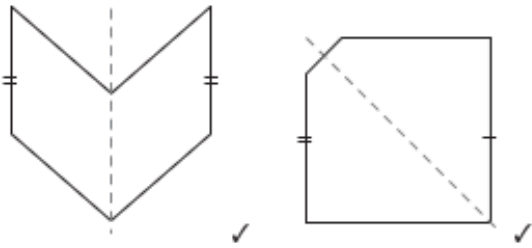
SOLUTIONS AND MEMORANDUM

Note: The last column in the memorandum shows the cognitive level for each question in the test. The levels are:

K	Knowledge: straight recall; use of mathematical facts and vocabulary; rounding off.
RP	Routine procedure: perform well known procedures; simple applications.
CP	Complex procedure: problems involving complex calculations and/or higher order reasoning.
PS	Problem solving: non-routine problems; higher order understanding and processes.
<i>More information about these levels can be found in the CAPS (p. 157).</i>	

Question	Marks	Cognitive level										
SECTION A:												
MULTIPLE CHOICE												
1. B ✓	(1)	K										
2. D ✓	(1)	K										
3. B ✓	(1)	RP										
4. C ✓	(1)	CP										
5. D ✓	(1)	PS										
SECTION B:												
NUMBER AND OPERATIONS												
6.	<table border="1"> <thead> <tr> <th>Common fraction</th> <th>Decimal fraction</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>$\frac{23}{100}$</td> <td>a) 0,23 ✓</td> <td>23%</td> </tr> <tr> <td>$\frac{6}{10}$</td> <td>0,6</td> <td>b) 60% ✓</td> </tr> </tbody> </table>	Common fraction	Decimal fraction	Percentage	$\frac{23}{100}$	a) 0,23 ✓	23%	$\frac{6}{10}$	0,6	b) 60% ✓	 (1) (1)	 K K
Common fraction	Decimal fraction	Percentage										
$\frac{23}{100}$	a) 0,23 ✓	23%										
$\frac{6}{10}$	0,6	b) 60% ✓										
7. 8 tenths or 8 t or 0,8 ✓	(1)	K										
8. a) 4 ✓	(1)	K										
b) -5 ✓	(1)	K										

Question	Marks	Cognitive level
9. a) $6,50$ $\begin{array}{r} -2,35 \\ \hline 4,15 \end{array}$ correct method $4,15$ correct answer	(2)	RP
b) 37 $\begin{array}{r} \times 14 \\ \hline 148 \\ + 370 \\ \hline 518 \end{array}$ correct multiplication 518 correct answer So $3,7 \times 1,4 = 5,18$ correct answer OR $37 \times 14 = 37 \times (10 + 4)$ $= 370 + 148$ correct multiplication $= 518$ correct answer So $3,7 \times 1,4 = 5,18$ correct answer	(3)	CP
10. a) $-18-13 = -31$ b) $8 + (-27) = 8-27 = -19$	(1) (1)	K K
11. a) $\Delta = 8$ b) $14 + \Delta = 16-8$ $14 + \Delta = 8$ $\therefore \Delta = -6$	(1) (2)	RP CP
12. 2^3-92 $= 8-81$ $= -73$	(2)	RP
PATTERN, FUNCTION AND ALGEBRA		
13. Rule: <u>multiply by 3 and add 1</u> (for getting the rule correct) OR Output number = (input number \times 3) + 1	(2)	RP
14.  for drawing Shape 4 correctly b) 21 sides	(2) (1)	K
15. $x \times 2 + 3 = 13$ for getting the left hand side correct for adding an equals sign	(2)	RP

SPACE AND SHAPE		
20. a) Hexagon	(1)	RP
b) Pentagon	(1)	RP
c) Irregular	(1)	RP
d) Irregular	(1)	RP
e) 	(2)	CP
Question	Marks	Cognitive level
21. a) Figure A is a trapezium	(1)	RP
b) Figure B is a rhombus	(1)	RP
c) Figure C is a <u>a</u> octagon	(1)	RP
22. a) Right angled triangle	(1)	CP
b) Scalene triangle	(1)	CP
23. a) QR = 23 mm	(1)	CP
b) RS = 55 mm	(1)	CP

SKILLS MASTERY ASSESSMENTS

Rationale

- A Skills Mastery Assessment (SMA) is one in which there is an iterative revisiting of skills, topics, subjects or themes throughout the year.
- SMA is not simply the repetition of a topic taught. It requires the deepening of it, with each successive encounter building on the previous one.
- SMA is critical in today's educational environment, especially in mathematics, where we must consistently give our learners the opportunity to revisit and practice skills they have already learned aimed at mastery.
- The traditional practice is to incorporate consolidating, revising or reviewing, through homework, morning work, small group instruction, and even after school math classes. Through SMA we are going to continuously review skills and concepts with our students.
- It makes sense that we would continue to assess their understanding on those same skills by changing the context of the question using C-P-A-W (Concrete – Pictorial – Abstract -Worded)
- When we first teach and assess a skill, many of our students have yet to master it. By incorporating a SMA activity into your classroom, you are providing your students with the opportunity to demonstrate their growth and understanding on a regular basis.
- These regular SMAs help you see where your students are always struggling. You can use the results to guide your small group instruction and customize your lessons and activities to meet the needs of your students, not just the covering of curriculum.

Implementation

- In every lesson plan there are 10 minutes set aside for consolidation and revision, meaning one could apply SMA every day for 10 minutes, before teaching a new concept for that day.
- Each SMA is using a five-item design to ensure teachers can complete it in 10 minutes.
- As a minimum, this Planner and Tracker, recommends the use of Tuesdays and Fridays, but teachers could use every day.
- Each Tuesday and Thursday you are encouraged to take 10 minutes and give a SMA to the whole class, or groups. Learners should be able to take about 5 minutes to complete – then the teacher must remediate by addressing errors, misconceptions and misunderstandings.
- Teachers could also use the data from the SMA to help plan small group lessons for the next week.
- Teachers could also pull different students for different skills until the teacher felt confident that the learners were more confident in their responses. Then next week, repeat....new set of SMAs, similar skills being assessed, new data for small group instruction.
- These daily SMAs should be seen as a progress monitoring tool as well. This will prove to be effective in letting teachers know how their most struggling students are progressing.

SKILLS MASTERY EXEMPLARS

Skills Mastery (SM) Assessment 1

Number Assessment

1.

Are the following true or false?

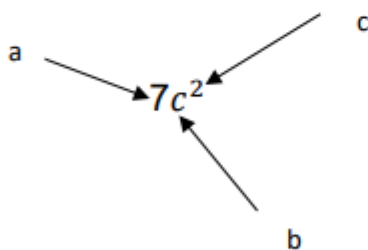
The sum of the interior angles of a triangle is 360° .

Opposite sides of a kite are equal.

Negative \div Negative = Positive.

2.

Label the diagram



3.

Simplify the following. Show ALL your working out.

a) $(12 + 7) - (2 - 23)$

b) $8 \times 5 \div (4 - 14)$

4.

12; 13; 6; 11; 9; 12; 13; 10; 13

Use the above information to determine the following:

a) Range

b) Median

c) Mode

d) Mean

5.

Find the next term in the following number sequence:

a) 5; 25; 125; 625; _____

b) 1122; 1095; 1068; 1041; _____

SM Assessment 2

Number Assessment

1. Round 3479,985 off to:
 - a) Nearest tenth
 - b) Nearest hundred
2. Nineteen million two hundred and eight thousand and six – in digits.
 - a) 19 280 006
 - b) 19 208 006
 - c) 19 028 060
 - d) 19 208 600

3. Write an integer to represent each description.

Eight units to the left of -3 on a number line. _____



Eight units to the right of -3 on a number line. _____

4. Write the answers of the following exponents:

$$3^2 = \underline{\quad}$$

$$7^2 = \underline{\quad}$$

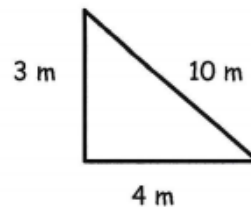
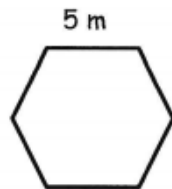
5.

Shape		
Name	a	b
Regular/Irregular?	c	d
Concave/Convex?	e	f

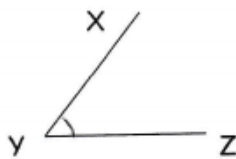
SM Assessment 4

Number Assessment

1. Calculate the perimeter of the Hexagon and the area of the triangle below:



2. Use your protractor to measure the angles given below:



$\widehat{XYZ} = \underline{\hspace{2cm}}$

3.

Common fraction	Decimal fraction	Percentage	Out of 100
$\frac{1}{2}$		50%	$\frac{50}{100}$
	0,75		$\frac{75}{100}$
$\frac{9}{10}$	0,9	90%	

4. Fill in the additive inverse for the following numbers:

-6 additive inverse : _____

7 additive inverse : _____

5. $-14 - (-10) + 17$



SM Assessment 5

Number Assessment

1. Identify the variable and constant of the algebraic expressions below:

Algebraic expression	Variable	Constant
$b + 12$		
$3b + \frac{1}{4}$		

2. Write an equation (number sentence) for each of the following.
A certain number multiplied by two then three is added to get 13.

3. Order these integers from smallest to biggest.

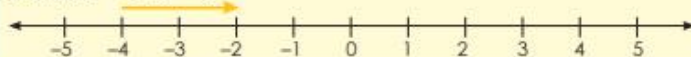
-5, -51, 21, -61, 42, -66, 5, 39, -31, -71, 31, 66

4. Fill in $<$, $>$ or $=$

-2 2

-4 -3

5. Example: $-4 + 2 = -2$



a. $-5 + 5 =$

SM Assessment 6

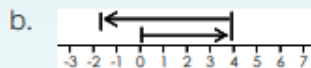
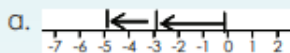
Number Assessment

1. $10 - \frac{3^3}{3}$

2. $q + 7 + b$, when $q = 1$ and $b = 4$

3. $(-8) + \underline{\hspace{2cm}} + 5 = -2$

4. Write sums for the following.



5. a. $7 - (-31) =$

SM Assessment 9

Number Assessment

1. A ratio is a comparison of two numbers by _____.
(a) addition (b) subtraction
(c) multiplication (d) division

2. The value of $(10 \div 2) + (20 \div 4) + (40 \div 8) = 60 \div$ _____.
(a) 15 (b) 12 (c) 5 (d) 4

3. **Say whether it is an expression or an equation.**

a. $-4 + 8$	b. $-9 + 7 = -2$	c. $-5 + 10$
<input type="text"/>	<input type="text"/>	<input type="text"/>

4. **1. Describe the following in words:**

Example: $-4, -8, -12, -16, -20, \dots$
subtracting 4 from the previous term.

a. $9; 6; 3; 0; -3; \dots$	b. $4; 10; 16; 22; 28; \dots$	c. $7; 14; 21; 28; 35; \dots$
<input type="text"/>	<input type="text"/>	<input type="text"/>

5. Determine whether the figure is a polygon.

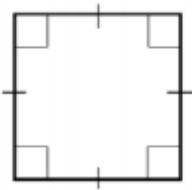


- a. No
b. Yes

SM Assessment 10

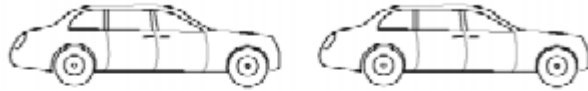
Number Assessment

1. Give all of the names that apply to the quadrilateral.



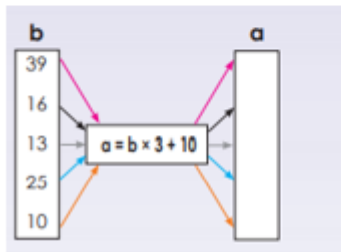
- a. Parallelogram; rhombus
b. Parallelogram; rectangle
c. Parallelogram; rhombus; rectangle; square
d. Parallelogram; square

2. Identify the type of transformation.

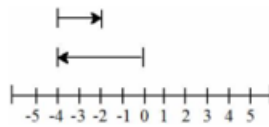


- a. Reflection
- b. Translation
- c. Rotation

- 3.



4. Which of the following number sentence below best describes the problem shown on the number line?



- (a) $-2 + (-4)$
 - (b) $-5 + 3$
 - (c) $5 + (-3)$
 - (d) $-4 + 2$
5. Which one of the following is equivalent to the expression given below? $(2^5)(2^6)$
- (a) 2^{11}
 - (b) 2^{30}
 - (c) 4^{11}
 - (d) 4^{30}

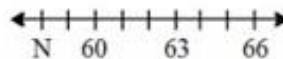
SM Assessment 11

Number Assessment

1. **Solve for x.**

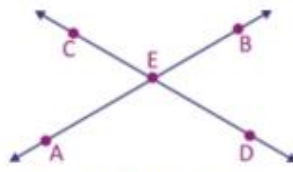
a. $-2x - 5 = 15$

2. The letter *N* represents which number?



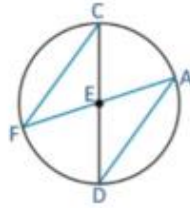
- (a) 58
- (b) 59
- (c) 61
- (d) 62

3. Angle AED and angle CEB are an example of _____ .



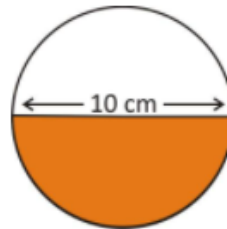
- (a) Adjacent angle (b) Supplementary Angles
 (c) Alternate Interior Angles (d) Vertically opposite angles

4. Which of the following statements about the circle is TRUE?



- (a) AD and CF are chords.
 (b) AD and CF are both, chords and diameter.
 (c) CD and AF are radii.
 (d) EC and ED are chords.

5. Calculate the area of the shaded portion.



- (a) 31.4 cm^2 (b) 39.25 cm^2 (c) 48.25 cm^2 (d) 78.5 cm^2

SM Assessment 12

Number Assessment

1.

Substitute and calculate.

Q. $y = x^2 + \frac{2}{x}$; $x = -4$

2. What is the distance along the circumference of a part of a circle known as?
(a) Diameter (b) Tangent (c) Arc (d) radius

3. Which of the following value is the smallest?
(a) 25% of 100 (b) 50% of 100
(c) $\frac{1}{2}$ of 100 (d) $\frac{3}{4}$ of 100

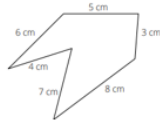
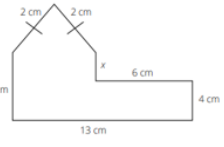

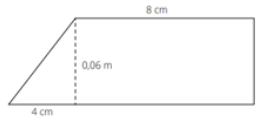
4. ACD rotates in a CD player at about 350 revolutions per minute. How many revolutions would CD have made after 1 hours?
(a) 2100 (b) 21000 (c) 350 (d) 210000

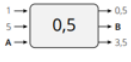
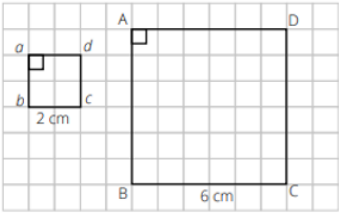
5. **1. Use the data set below and calculate the range, the mean, the median and the mode:**
3, 13, 7, 5, 21, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29

a. The range	b. The mean
<input type="text"/>	<input type="text"/>
c. The median	d. The mode
<input type="text"/>	<input type="text"/>

CONSOLIDATION (REVISION ASSESSMENTS FOR END OF TERM

ASSESSMENT 1

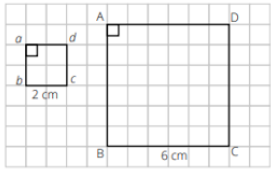
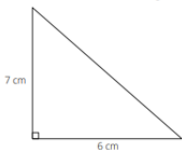
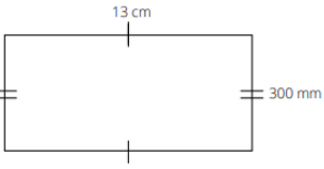
<p>1. Fill in the missing values of the following number patterns. -28; ___; -20; -16; ___ (2)</p>	<p>11. Find the value of y in the following equations: (2) if $y = 4x$, when $x = 11$ (2) if $y = 2x + 16$, when $x = 10$ (3)</p>
<p>2. Write the correct sign between the numbers: greater than, less than or = equal to. -9 ___ $-\frac{9}{1}$ (1) -30 ___ 30 (1)</p>	<p>12. Determine the perimeter of the figure. (2)</p> 
<p>3. Add the integers without using a calculator. (You may use a number line.) $(-15) + (-6)$ (2) $-8 + 12$ (2)</p>	<p>13. Study the polygon and answer the questions. (2)</p>  <p>Determine the value of x, the length of the unknown side. (2)</p>
<p>4. Arrange these numbers in descending order: -15; -51; 0; -115; 15; 51. (3)</p>	<p>14. Look at the 2D picture of Randy's pool and answer the question: (2)</p>  <p>Convert 300 mm to cm. (2)</p>
<p>5. Use the properties of integers to complete the statements. (1) $8 + (-3) = __ + 8$ (1)</p>	<p>15. Determine the area of a square if the length of one of its sides is 5 cm. (2)</p>
<p>6. Given: $3x + 2 = 17$. What is the variable? (2) What is the coefficient of x? (2)</p>	<p>16. Study the complex polygon and answer the question: (2)</p>  <p>Convert m to cm. (2)</p>
<p>7. The formula for the perimeter of a square is: Perimeter = $4s$. What is the variable in the formula? (2)</p>	<p>17. $\sqrt{36} - 11$ is equal to ___ (1) A 3 B 4 C 5 D 6</p>
<p>8. Write a word problem which represents the following number sentences. (3) $2x = 120$ (3)</p>	<p>18. $4(5 + 2)$ is equal to ___ (1) A $(4 \times 5) + (4 \times 2)$ B $(5 + 4) \times (5 + 2)$ C $(2 \times 4) + (2 \times 2)$ D $(4 + 5) \times (4 + 2)$</p>

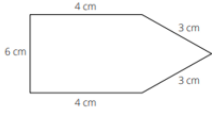

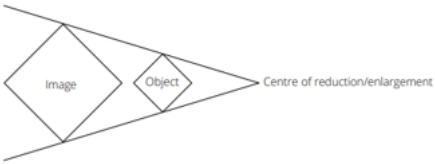
9.	Andrew thinks of a number. He multiplies the number by 2 and gets the answer 30. Write Andrew's problem as a number sentence. (2)	19.	Complete the flow diagram and fill in the missing values: A and B. (2) 
10.	If $x + 5 = 12$, what is the value of x ? (2)	20.	Study the illustration and answer the questions.  Are these two shapes similar or congruent? (1)

MEMORANDUM

1.	-24 ✓ and -12 ✓	11.	$y = 4 \times (11)$ $y = 44 \checkmark \checkmark$ $y = (2 \times 10) + 16$ $y = 20 + 16$ $y = 36 \checkmark \checkmark \checkmark$
2.	= ✓ < ✓	12.	Perimeter = 6 cm + 5 cm + 3 cm + 8 cm + 7 cm + 4 cm = 33 cm ✓✓
3.	(-15) + (-6) = -21 ✓✓ -8 + 12 = 4 ✓✓	13.	$x = 7 \text{ cm} - 4 \text{ cm} = 3 \text{ cm} \checkmark \checkmark$
4.	51; 15; 0; -15; -51; -115 ✓✓✓	14.	$300 \text{ mm} \div 10 = 30 \text{ cm} \checkmark \checkmark$
5.	-3 ✓	15.	Area = 5 cm × 5 cm = 25 cm ² ✓✓
6.	$x \checkmark \checkmark$ $3 \checkmark \checkmark$	16.	$0,06 \text{ m} \times 100 = 6 \text{ cm} \checkmark \checkmark$
7.	$p \checkmark$ and $s \checkmark$	17.	C ✓
8.	A number is multiplied by two. The answer is equal to one hundred and twenty. ✓✓✓	18.	A ✓
9.	$2x = 30 \checkmark \checkmark$	19.	A = 7 ✓ and B = 2,5 ✓
10.	$x = 7 \checkmark \checkmark$	20.	Similar ✓

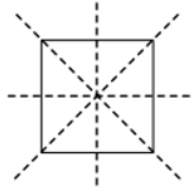
ASSESSMENT 2

<p>1. Study the illustration and answer the questions. (2)</p>  <p>What is the ratio of the corresponding sides bc to BC?</p>	<p>11. What is the value of y in the following equations? (3)</p> <p style="text-align: center;">$3y + 5 = 23$</p>												
<p>2. Complete the table and fill in the missing values: C and D. (2)</p> <p>$y = 2x + 0,253$</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td style="background-color: #d9ead3;">Input (x)</td> <td>1</td> <td>2</td> <td>5</td> <td>C</td> <td>12</td> </tr> <tr> <td style="background-color: #d9ead3;">Output (y)</td> <td>2,253</td> <td>4,253</td> <td>10,253</td> <td>18,253</td> <td>D</td> </tr> </tbody> </table>	Input (x)	1	2	5	C	12	Output (y)	2,253	4,253	10,253	18,253	D	<p>12. Jessica thinks of a number. She adds 3 to the number and gets an answer of 25. Write a number sentence to represent this problem. (3)</p>
Input (x)	1	2	5	C	12								
Output (y)	2,253	4,253	10,253	18,253	D								
<p>3. The sum of $31\ 313 + 26\ 262$ is _____. (1)</p> <p>A 57 557 B 57 575 C 55 757 D 75 757</p>	<p>13. Write a word problem which represents the following number sentences. (3)</p> <p style="text-align: center;">$3x - \frac{1}{2}x = 30$</p>												
<p>4. 12 367 rounded off to the nearest 100 is _____. (1)</p> <p>A 12 300 B 12 000 C 12 500 D 12 400</p>	<p>14. The formula for the perimeter of a square is: Perimeter = $4s$. What is the coefficient of s? (2)</p>												
<p>5. Calculate the area of the triangle. (2)</p> 	<p>15. Subtract the integers without using a calculator. (2)</p> <p style="text-align: center;">$12 - (-14)$ $-10 - 2$</p>												
<p>6. Look at the 2D picture of Randy's pool and answer the questions. (2)</p> 	<p>16. Arrange these numbers in ascending order: 300; -320; 302; -300; -302; 320. (3)</p>												

	Randy wants to put a fence around the pool. It costs R20 for 21,5 cm of fencing. Determine how much Rand it will cost to fence the pool. (2)		
7.	Work out the perimeter of this shape. (2) 	17.	Draw a square and draw all the lines of symmetry. (2) 
8.	Convert $\frac{21}{6}$ into a mixed fraction. (1) A $21\frac{1}{6}$ B $6\frac{1}{2}$ C $1\frac{6}{2}$ D $3\frac{3}{6}$	18.	In a particular year, Jane is twice as old as her daughter, Jessica. If Jane is 38 old, how old is Jessica? (1) A 19 years old B 18 years old C 17 years old D 16 years old
9.	Given: $3x + 2 = 17$. What is or are the constant(s)? (2)	19.	Two shapes are congruent if _____. (1) A they have the same shape and not the same size B they have the same shape and size C they do not have the same shape but are the same size D they do not have the same shape nor the same size
10.	Find the value of y in the following equations: if $y = 3x^2 - 20$, when $x = 5$. (3)	20.	In the transformation, the size of the diamond is changed by using a _____.  A reduction factor B enlargement factor C reflection factor D rotation factor

MEMORANDUM

1.	Ratio is 2 : 6. ✓	11.	$3y + 5 = 23$ $3y = 23 - 5$ $y = 18 \div 3$ $y = 6$ ✓✓✓
2.	C = 9 ✓ and D = 24,253 ✓	12.	$x + 3 = 25$ ✓✓✓
3.	B ✓	13.	A number is multiplied by three and then decreased by half the number. The answer equal to 30. ✓✓✓

4.	D ✓	14.	4 ✓✓
5.	Area = $\frac{1}{2} \times 6 \text{ cm} \times 7 \text{ cm}$ = 21 cm ² ✓✓	15.	12 - (-14) = 26 ✓✓ -10 - 2 = -12 ✓✓
6.	86 cm ÷ 21,5 cm = 4 ✓ Cost in rand = 4 × R20 = R80 ✓	16.	-320; -302; -300; 300; 302; 320 ✓✓✓
7.	Perimeter = 6 cm + 4 cm + 3 cm + 3 cm + 4 cm = 20 cm ✓✓	17.	✓✓✓✓ 1 mark for each correct vertex 
8.	Perimeter = 7 cm + 2 cm + 2 cm + 3 cm + 6 cm + 4 cm + 13 cm = 37 cm ✓✓	18.	A ✓
9.	2 ✓ and 7 ✓	19.	B ✓
10.	$y = 3 \times (5)^2 - 20$ $y = 75 - 20$ $y = 55$ ✓✓✓	20.	A ✓