vv

PLANNER & TRACKER FOR RECOVERY ANNUAL TEACHING PLAN (ATP)

2021 - 2023

MATHEMATICS

GRADE 7 TERM 2

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

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2030 NDP

- Please note that a Maths structured learning programme that includes daily lesson plans, big books, reading worksheets and classroom resources is available for download from www.nect.org.za
- This is a zero-rated website, so there are no data costs for downloads.
- This document can be used independently of the structured learning programme.

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ABOUT THE PLANNER AND TRACKER

This 2022 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 2022 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 2.
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 2021 mathematics 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 doesn't bode well.

Curriculum coverage in 2022 must be viewed and implemented in term 2, in the light of some contextual realities that includes the following:

1) 2021 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 for most 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	10 January - 17 March	47 (10 weeks)
Term 2	**5 April – 24 June**	**53 (12 weeks) – 6 holidays**
Term 3	19 July – 30 September	54 (11 weeks) – 2 holidays
Term 4	11 October - 14 Dec	47 (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 2 Planner and Tracker has 53 teaching and learning days of which 15 days are used for formative and summative Assessment days.
- NECT Term 2 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 50 lessons per term, five 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 12 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 10

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 New Concept – class activity	 10 min 50 min

CONTENT COVERAGE

TERM 2	Week 1 4 days	Week 2 5 days	Week 3 3 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 4 days	Week 11 5 days
Hours per week	3.5 hrs	4.5 hrs	2.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	3.5 hrs	4.5 hrs
Hours per topic	7 hrs		9 hrs		2 hrs.	9 hrs.		9 hrs.		3.5 hrs	4.5 hrs
Topics, concepts and skills	**DECIMAL FRACTIONS:** **Calculations with decimal fractions** • Addition and subtraction to decimal fractions of at least three decimal places • Multiply decimal fractions to include: – decimal fractions to at least 3 decimal places by whole numbers – Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place • Divide decimal fractions to include decimal fractions to at least 3 decimal places by whole numbers **Calculation techniques** • Use knowledge of place value to estimate the number of decimal places in the result before • Use rounding off and a calculator to check results where appropriate **Solving problems** • Solve problems in context involving decimal fractions **Equivalent forms** • Recognize equivalence between common fraction and decimal fraction forms of the same number • Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number		**INTEGERS:** **Counting, ordering and comparing integers** • Count forwards and backwards in integers for any interval • Recognize, order and compare integers **Calculations with integers** • Add and subtract with integers **Properties of integers** • Recognize and use commutative and associative properties of addition for integers		FORMAL ASSESSMENT TASK **INVESTIGATION** • Decimal Fractions • Integers	**NUMERIC AND GEOMETRIC PATTERNS** **Investigate and extend patterns** • Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns: – represented in physical or diagram form – not limited to sequences involving a constant – difference or ratio – of learner's own creation – represented in tables • Describe and justify the general rules for observed relationships between numbers in own words		**FUNCTIONS AND RELATIONSHIPS:** **Input and output values** • Determine input values, output values or rules for patterns and relationships using: – flow diagrams – tables – formulae **Equivalent forms** • Determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: – verbally – in flow diagrams – in tables – by formulae – by number sentences		REVISION	FORMAL ASSESSMENT TASK **TEST** All Term 1 & 2 topics

CORE QUESTIONS	DID ALL LEARNERS MASTER 2021 AND TERM 1 CORE SKILLS?	NEW CONCEPTS/CONTENT

RECOMMEN-DATION	1. Implement at least two Skills Mastery (SM) formative assessments every week. 2. Consolidation of Concepts – 10 minutes – twice a week apply 5-item SM assessments. 3. Teacher – can use SM as individual, pair, small group, or whole class activity. 4. Aim – to consolidate, remediate and work towards mastery. 5. Record – monitor learners who have learning gaps in the REFLECTION section of the Tracker	NEW CONCEPTS/CONTENT

WEEKLY PLANNER AND TRACKER

RECOMMENDATION

BASELINE TERM 2: Implement DBE Diagnostic – see exemplar in Planner and Tracker – or any similar diagnostic – Based on 2021 Grade 6 and term 1 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 = 15 - 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.

5 – 8 April 2022 (four-day week)

Week 1					
Lesson	**ATP Content**	**concepts, skills**	**DBE Workbook 1**	**Resources**	**Date**
1	HOLIDAYS				
2	Revision: Diagnostic	Baseline: (Revision, consolidation of Term 1 and Grade 6 skills)			
3	Revision: Remediation	Baseline: Remediation – error analysis			
4	DECIMAL FRACTIONS: **Calculations with decimal fractions** Addition and subtraction to decimal fractions of at least three decimal places. Multiply decimal fractions to include: – decimal fractions to at least 3 decimal places by whole numbers – Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place	Give examples of common, decimal fractions and percentages. Complete decimals on the number line. Add decimals. Subtract decimals. Write decimals in expanded form.	No. 8a (pp. xxii, xxiii)		
5	DECIMAL FRACTIONS: **Calculations with decimal fractions** Addition and subtraction to decimal fractions of at least three decimal places. Multiply decimal fractions to include: – decimal fractions to at least 3 decimal places by whole numbers – Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place	Add decimals. Subtract decimals. Complete table with decimal and common fraction Compute a percentage of money. Calculate % using a number line.	No. 8b (pp. xxiv, xxv)		

Notes for the teacher.

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: • Give examples of common, decimal fractions and percentages. • Complete decimals on the number line. • Add decimals. Subtract decimals. • Write decimals in expanded form. • Complete table with decimal and common fraction • Compute a percentage of money. • Calculate % using a number line.	What will you change next time? Why? **Struggling Learners Names:** **HOD:** **Date:**

11 – 14 April 2022 (four-day week)

Week 2					
Lesson	**ATP Content**	**concepts, skills**	**DBE workbook 1**	**Resources**	**Date**
6	DECIMAL FRACTIONS: **Solving problems** -Solve problems in context involving decimal fractions **Equivalent forms** - Recognize equivalence between common fraction and decimal fraction forms of the same number - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Convert from common to decimal to percentage. Write % as decimals. Add decimals. Compute a percentage of money and solve money problems.	No. 40 (pp. 94, 95) No. 43 (pp. 100, 101)		
7	DECIMAL FRACTIONS: **Calculation techniques** - Use knowledge of place value to estimate the number of decimal places in the result before - Use rounding off and a calculator to check results where appropriate	Convert from common to decimal. Write decimals in expanded form using place value. Write decimals in words. Apply place value table to decimals. Write in ascending or descending order.	No. 42 (pp. 98, 99)		
8	DECIMAL FRACTIONS: **Calculation techniques** - Use knowledge of place value to estimate the number of decimal places in the result before - Use rounding off and a calculator to check results where appropriate	Use number lines to position decimals in order. Fill in missing numbers. Extend the decimal patterns. Round off to the nearest unit and tenth.	No. 44 (pp. 102, 103)		
9	Assessment Activity: Consolidate and revise – assess learners understanding, remediate for understanding – use SM Activities				
10	PUBLIC HOLIDAY				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Convert from common to decimal to percentage. • Write % as decimals. • Add decimals. • Compute a percentage of money and solve money problems. • Convert from common to decimal. • Write decimals in expanded form using place value. • Write decimals in words. • Apply place value table to decimals. • Write in ascending or descending order. • Use number lines to position decimals in order. • Fill in missing numbers. Extend the decimal patterns. • Round off to the nearest unit and tenth.	What will you change next time? Why? **Struggling Learners Names?** **HOD:** **Date:**

19 – 22 April 2022 (four-day week)

Week 3					
Lesson	**ATP content**	**concepts, skills**	**DBE Workbook 1**	**Resources**	**Date**
11	PUBLIC HOLIDAY				
12	DECIMAL FRACTIONS: **Calculations with decimal fractions** Addition and subtraction to decimal fractions of at least three decimal places. Multiply decimal fractions to include: – decimal fractions to at least 3 decimal places by whole numbers – Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place	Adding decimals using place value grouping and algorithm. Subtract decimals using place value grouping and algorithm.	No. 45 (pp. 104, 105)		
13	DECIMAL FRACTIONS: **Calculations with decimal fractions** Addition and subtraction to decimal fractions of at least three decimal places. Multiply decimal fractions to include: – decimal fractions to at least 3 decimal places by whole numbers – Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place	Multiply decimals. Multiply decimals by multiples of ten.	No. 46 (pp. 106, 107)		
14	DECIMAL FRACTIONS: **Calculations with decimal fractions** Divide decimal fractions to include decimal fractions to at least 3 decimal places by whole numbers.	Divide decimals. Round off answers to the nearest whole number or tenth. Complete the flow diagrams.	No. 47 (pp. 108, 109)		
15	Assessment Activity: Consolidate and revise – assess learners understanding, remediate for understanding – use SM Activities				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Adding decimals using place value grouping and algorithm. • Subtract decimals using place value grouping and algorithm. • Multiply decimals. • Multiply decimals by multiples of ten. • Divide decimals. • Round off answers to the nearest whole number or tenth. • Complete the flow diagrams.	What will you change next time? Why? **Struggling Learners names:** **HOD:** **Date:**

25 – 29 April 2022 (four-day week)

Week 4					
Day	**ATP Content**	**CAPS content, concepts, skills**	**DBE workbook**	**Resources**	**Date**
16	INTEGERS: Counting, ordering and comparing integers -Count forwards and backwards in integers for any interval - Recognize, order and compare integers	Use temperature to understand meaning of negative. Use word prompts to place numbers as negative or positive. Position negative numbers on the number line. Complete number patterning, extend numbers.	Bk 2 No. 105 (pp. 90, 91)		
17	INTEGERS: Counting, ordering and comparing integers -Count forwards and backwards in integers for any interval - Recognize, order and compare integers	Show set of integers on the number line. Give an integer for different descriptions. Order integers.	Bk 2 No. 106 (pp. 92, 93)		
18	PUBLIC HOLIDAY				
19	INTEGERS **Calculations with integers -**Add and subtract with integers **Properties of integers -** Recognize and use commutative and associative properties of addition for integers	Define additive inverses and show on number line. Add integers using a number line. Subtract integers.	Bk 2 No. 107 (pp. 94, 95)		
20	Assessment Activity: Consolidate and revise – assess learners understanding, remediate for understanding – use SM Activities				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Use temperature to understand meaning of negative. • Use word prompts to place numbers as negative or positive. • Position negative numbers on the number line. • Complete number patterning, extend numbers. • Show set of integers on the number line. • Give an integer for different descriptions. Order integers. • Define additive inverses and show on number line. • Add integers using a number line. • Subtract integers.	What will you change next time? Why? **Struggling Learners Names**: **HOD:** **Date:**

3 – 6 May 2022 (four-day week)

Week 5					
Day	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
21	PUBLIC HOLIDAY				
22	INTEGERS **Calculations with integers -**Add and subtract with integers **Properties of integers -** Recognize and use commutative and associative properties of addition for integers	Add integers using the number line or draw a diagram.	Bk 2 No. 108 (pp. 96, 97)		
23	**FORMAL ASSESSMENT**				

	Investigation: Decimal Fractions & Integers				
24	**FORMAL ASSESSMENT** **Investigation: Decimal Fractions & Integers**				
25	**FORMAL ASSESSMENT** **Investigation: Decimal Fractions & Integers**				
Reflection					
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Add integers using the number line or draw a diagram.	What will you change next time? Why? **Struggling Learner names:**				
	HOD: **Date:**				

9 – 13 May 2022

Week 6					
Less	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
26	INTEGERS **Calculations with integers -**Add and subtract with integers **Properties of integers -** Recognize and use commutative and associative properties of addition for integers	Add and subtract integers using the number line.	Bk 2 No. 109 (pp. 98, 99)		
27	INTEGERS **Calculations with integers -**Add and subtract with integers **Properties of integers -** Recognize and use commutative and associative properties of addition for integers	Add and subtract integers using the number line.	Bk 2 No. 110 (pp. 100, 101)		
28	INTEGERS **Calculations with integers -**Add and subtract with integers **Properties of integers -** Recognize and use commutative and associative properties of addition for integers	Apply commutative property for integers. Show commutative property for addition holds for integers using substitution Add and subtract integers	Bk 2 No. 111 (pp. 102, 103)		
29	INTEGERS **Calculations with integers -**Add and subtract with integers **Properties of integers -** Recognize and use commutative and associative properties of addition for integers	Apply associative property for integers. Show associative property for addition holds for integers using substitution Add and subtract integers	Bk 2 No. 112 (pp. 104, 105)		
30	Assessment activity: Catch-up on work not completed; remediation of concepts which some learners have not fully understood and enrichment cards for the learners who are on track				
Reflection					

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO:	What will you change next time? Why?
• Add and subtract integers using the number line. • Add and subtract integers using the number line. • Apply commutative property for integers. • Show commutative property for addition holds for integers using substitution • Add and subtract integers • Apply associative property for integers. • Show associative property for addition holds for integers using substitution	**Struggling Learners Names:** **HOD:** **Date:**

16 – 20 May 2022

Week 7					
Day	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
31	NUMERIC AND GEOMETRIC PATTERNS **Investigate and extend patterns-** Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns:– represented in physical or diagram form – not limited to sequences involving a constant difference or ratio– of learner's own creation – represented in tables **Describe and justify** the general rules for observed relationships between numbers in own words	Describe patterns on a number line with constant difference. Describe the rule for each pattern. Describe patterns with constant ratio.	No. 65 (pp. 2, 3) No. 66 (pp. 4, 5)		
32	NUMERIC AND GEOMETRIC PATTERNS **Investigate and extend patterns-** Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns:– represented in physical or diagram form – not limited to sequences involving a constant difference or ratio– of learner's own creation – represented in tables **Describe and justify** the general rules for observed relationships between numbers in own words	Explain the difference between constant difference and ratio. Describe patterns on a number line with no constant difference or ratio. Describe the rule for each pattern. Describe patterns in a table and give the rule. Give the value of the nth term.	No. 67 (pp. 6, 7) No. 68 (pp. 8, 9)		
33	NUMERIC AND GEOMETRIC PATTERNS **Investigate and extend patterns-** Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns:– represented in physical or diagram form – not limited to sequences involving a constant difference or ratio– of learner's own creation – represented in tables **Describe and justify** the general rules for observed relationships between numbers in own words	Describe the rule for each pattern. Give the value of the nth term. Identify geometric number patterns. Create the first three terms of the patterns using matchsticks. Complete tables for triangular pattern or square pattern.	No. 69 (pp. 10, 11) No. 70 (pp. 12, 13)		

34	NUMERIC AND GEOMETRIC PATTERNS **Investigate and extend patterns-** Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns:– represented in physical or diagram form – not limited to sequences involving a constant difference or ratio– of learner's own creation – represented in tables **Describe and justify** the general rules for observed relationships between numbers in own words	Describe the rule for each pattern. Give the value of the nth term. Describe the sequence in different ways.	No. 71a (pp. 14, 15) No. 71b (pp. 16, 17)		
35	Assessment Activity: Consolidate and revise – assess learners fraction understanding, remediate for understanding – use SM Activities				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Describe patterns on a number line with constant difference. • Describe the rule for each pattern. • Describe patterns with constant ratio. • Explain the difference between constant difference and ratio. • Describe patterns on a number line with no constant difference or ratio. • Describe patterns in a table and give the rule. • Give the value of the nth term. • Identify geometric number patterns. • Create the first three terms of the patterns using matchsticks. • Complete tables for triangular pattern or square pattern. • Describe the sequence in different ways.	What will you change next time? Why? **Struggling Learners Names:** **HOD:** **Date:**

23 – 27 May 2022

Week 8					
Day	**ATP content**	**concepts, skills**	**DBE workbook 1**	**Resources**	**Date**
36	FUNCTIONS AND RELATIONSHIPS: **Input and output values** -Determine input values, output values or rules for patterns and relationships using:– flow diagrams– tables– formulae	Describe input, output and process. Complete the flow diagrams given the rule. Use the rule to find values of letters.	No. 48 (pp. 110, 111)		
37	FUNCTIONS AND RELATIONSHIPS: **Input and output values** -Determine input values, output values or rules for patterns and relationships using:– flow diagrams– tables– formulae	Determine the input or output. Complete the flow diagrams given the rule. Use the rule to find values of letters.	No. 49 (pp. 110, 111)		
38	FUNCTIONS AND RELATIONSHIPS: **Equivalent forms** - Determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: – verbally – in flow diagrams – in tables – by formulae – by number sentences	Complete the flow diagram and give a table using the same rule. Complete the tables and show calculations.	No. 50 (pp. 112, 113)		
39	FUNCTIONS AND RELATIONSHIPS: **Equivalent forms** - Determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: – verbally – in	Complete the tables and show calculations. Determine the rule and solve the letters.	No. 51 (pp. 114, 115)		

	flow diagrams – in tables – by formulae – by number sentences				
40	Complete and consolidate the week's assessment and work				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Describe input, output and process. • Complete the flow diagrams given the rule. • Use the rule to find values of letters. • Complete the flow diagram and give a table using the same rule. • Complete the tables and show calculations. • Determine the rule and solve the letters.	What will you change next time? Why? Struggling Learners Names: **HOD:** **Date:**

30 May – 3 June 2022

Week 9					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
41	FUNCTIONS AND RELATIONSHIPS: **Input and output values** -Determine input values, output values or rules for patterns and relationships using:– flow diagrams– tables– formulae	Describe input, output and process. Complete the flow diagrams given the rule. Use the rule to find values of letters.	Bk 2. No. 72 (pp. 18, 19)		
42	FUNCTIONS AND RELATIONSHIPS: **Input and output values** -Determine input values, output values or rules for patterns and relationships using:– flow diagrams– tables– formulae	Complete the tables with given rule Use the rule to find values of letters.	Bk 2. No. 73 (pp. 20, 21)		
43	NUMERIC AND GEOMETRIC PATTERNS **Investigate and extend patterns-** Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns:– represented in physical or diagram form – not limited to sequences involving a constant difference or ratio– of learner's own creation – represented in tables **Describe and justify** the general rules for observed relationships between numbers in own words	Describe the patterns using subtracting and adding 0n the number line. Describe the pattern by finding the adding rule. Describe the pattern by finding the times rule.	Bk 2. No. 114 (pp. 108, 109)		
44	NUMERIC AND GEOMETRIC PATTERNS **Investigate and extend patterns-** Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns:– represented in physical or diagram form – not limited to sequences involving a constant difference or ratio– of learner's own creation – represented in tables **Describe and justify** the general rules for observed relationships between numbers in own words	Describe the patterns with no constant difference or ratio. Describe the pattern and make a drawing to show the value of each term. Find the value of the nth term. Complete the pattern within given tables.	Bk 2. No. 114 (pp. 108, 109)		
45	Complete and consolidate the week's assessment and work				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Describe input, output and process. • Complete the flow diagrams given the rule. • Use the rule to find values of letters. • Complete the tables with given rule • Describe the patterns using subtracting and adding on the number line. • Describe the pattern by finding the adding rule. Describe the pattern by finding the times rule. • Describe the patterns with no constant difference or ratio. • Describe the pattern and make a drawing to show the value of each term. • Find the value of the nth term. Complete the pattern within given tables.	What will you change next time? Why? **HOD:** **Date:**

6 – 10 June 2022

Week 10					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
46	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
47	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
48	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
49	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
50	Complete and consolidate the week's assessment and work				

Reflection	
Identify some skills that need revising during the next term:	What will you change next time? Why? **Struggling Learners Names:**

13 – 15 June 2022 (three-day week)

Week 11					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
51	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
52	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker				

	learners have not fully understood and enrichment cards for the learners who are on track				
53	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
54	PUBLIC HOLIDAY				
55	PUBLIC HOLIDAY				

Reflection	
Identify some skills that need revising during the next term:	What will you change next time? Why? **Struggling Learners Names:**

20 – 24 June 2022

Week 12					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
56	FORMAL ASSESSMENT TASK: Test All topics				
57	FORMAL ASSESSMENT TASK: Test All topics				
58	FORMAL ASSESSMENT TASK: Test All topics				
59	FORMAL ASSESSMENT TASK: Test All topics				
60	END OF TERM				

Reflection	
Identify some skills that need revising during the next term:	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 two FORMAL Assessment tasks: 1) Assignment and 2) 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	**Informal Assessment (End of week) and Skills Mastery Activities (Tuesdays and Thursdays)**	**Formal Assessment Activities (End of week) – 2 FORMAL ASSESSMENTS: 1) Assignment 2) Test**

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	Formal Assessment Task: Assignment
6	**Tuesday** Skills mastery Assessment 9 **Thursday** Skills mastery Assessment 10	
7	**Tuesday** Skills mastery Assessment 11 **Thursday** Skills mastery Assessment 12	
8	**Tuesday** Skills mastery Assessment 13 **Thursday** Skills mastery Assessment 14	
9	**Tuesday** Skills mastery Assessment 15 **Thursday** Skills mastery Assessment 16	
10	**Tuesday** Skills mastery Assessment 17 **Thursday** Skills mastery Assessment 18	
11.	**Tuesday** Skills mastery Assessment 19	
12		**FORMAL ASSESSMENT 2 – Test (All Topics)**

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

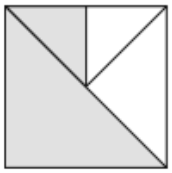
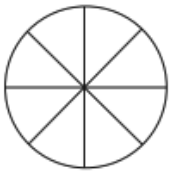
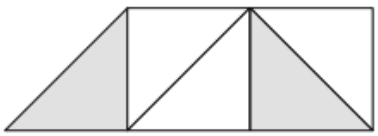
Surname:		
Name:	**Date:** _____	_____ **55**
Date of birth:		

INSTRUCTIONS TO LEARNERS:

1. Answer all the questions in the spaces provided.
2. No calculators may be used.
3. Show ALL calculations where necessary.
4. Time: 60 minutes.
5. Total: 55 marks.

QUESTION 1 **[6 marks]**

Complete the table below without using a calculator. The first row has been done for you.

	Simplified fraction	Equivalent fraction	Percentage %	Shade the fraction of the shape (if not shaded)
e.g.	$\frac{5}{8}$	$\frac{25}{40}$	62, 5%	
1.1	$\frac{3}{4}$	$\frac{75}{\ldots}$	...	
1.2	$\frac{\ldots}{\ldots}$	$\frac{\ldots}{50}$	...	

QUESTION 2 **[24 marks]**

2.1 Write THREE equivalent fractions for the following fraction:

$\frac{25}{50}$ = _____ = _____ = _____ (3)

2.2 Arrange the following numbers in descending order:

0,9; 0,009; 0,09; 0,0009; 9,09

_____ (3)

2.3 Work out the answers to the following. Simplify your answers where possible.

a) $\frac{6}{10} + \frac{2}{5} - \frac{3}{4}$

_____

_____

_____

_____ (3)

b) $1\frac{2}{3} - \frac{5}{6}$

_____

_____

_____

_____ (3)

2.4 Round 1 637, 984 off to:

a) two decimal places _____ (1)

b) the nearest 100 _____ (1)

c) the nearest tenth _____ (1)

2.5 In a class of 30 learners, 7 were absent. What fraction of the class was present?

_____

_____

_____

_____ (2)

2.6 Write down the next decimal number.

0,79; 0,76; 0,73; 0,7; _____ (1)

2.7 Work out answers to the following:

a) 0,8 + 1,9 – 0,6

_____

_____

_____

_____ (2)

b) 0,23 x 6

_____

_____

_____

_____ (2)

c) 0,684 ÷ 2

_____

_____

_____

_____

_____ (2)

QUESTION 3 **[6 marks]**

3.1 If the pattern below is continued, find the 7th fraction in this sequence:

$\frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} =$ _____

Show all working out.

_____

_____

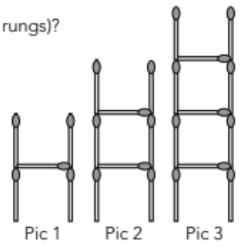
_____

_____

_____

_____ (3)

3.2 Sipho builds ladders with matches as shown below.
How many matches will he need to build a ladder with 6 steps (or rungs)?
Show all working out.



_____

_____

_____

_____

_____

_____ (3)

QUESTION 4

There are **TEN** multiple-choice questions in Section B. 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 x 15 = _____

(A) 105 B. 110 C. 115 D. 120

1 What type of number is $4\frac{3}{5}$?

a) Common fraction b) Decimal fraction c) Percentage d) Mixed number (2)

2 Calculate: 4 + 6 x 3 ÷ 6

a) 24 b) 16 c) 7 d) 36 (2)

3 What is the missing decimal number in the following number sequence?

13,25; 13,3; _____; 13,4; 13,45

a) 13,30 b) 13,35 c) 13,5 d) 13, 40 (2)

4 0, 65 is written as a percentage. Which one of the following is the correct percentage?

a) 6,5% b) 65% c) 0,65% d) 650% (2)

5 Which number lies halfway between 2 and 3 on the number line?

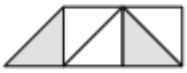
a) $2\frac{3}{4}$ b) 3 c) $2\frac{1}{2}$ d) $5\frac{1}{2}$ (2)

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.
More information about these levels can be found in the CAPS (p. 296).	

QUESTION 1 **[6 marks]** | 3 | **3K**

	Simplified fraction	Equivalent fraction	Percentage %	Shade the fraction of the shape (if not shaded)
1.1	$\frac{3}{4}$	$\frac{75}{100}$ ✓	75% ✓	
1.2	$\frac{2}{5}$ ✓	$\frac{20}{50}$ ✓	40% ✓	

QUESTION 2 **[24 marks]**

2.1 Three possible answers are $\frac{1}{2}$ ✓ $\frac{9}{10}$ ✓ $\frac{8}{16}$ ✓ | 3 | **2RP**

Accept **all** correct answers.

2.2	Descending order: 9,09; 0,9; 0,09; 0,009; 0,0009 ✓✓✓		3	**3RP**
2.3	a) $\frac{6}{10} + \frac{2}{5} - \frac{3}{4}$ $= \frac{12}{20} + \frac{8}{20} - \frac{15}{20}$ ✓ $= \frac{20}{20} - \frac{15}{20}$ ✓ $= \frac{5}{20}$ $= \frac{1}{4}$ ✓		3	**3RP**
2.3	b) $1\frac{2}{3} - \frac{5}{6}$ $= \frac{5}{3} - \frac{5}{6}$ ✓ $= \frac{10}{6} - \frac{5}{6}$ ✓ $= \frac{5}{6}$ ✓		3	**3RP**
2.4	Round 1 637, 984 off to:			
	a) two decimal places	**1 637, 98** ✓	1	**1K**
	b) the nearest 100	**1 600** ✓	1	**1K**
	c) the nearest tenth	**1 638, 0** ✓	1	**1K**
2.5	Number of learners present = 30 – 7 = 23 ✓ Fraction of learners present = $\frac{23}{30}$ ✓		2	**2RP**
2.6	0,79; 0,76; 0,73; 0,7; **0,67** ✓		1	**1K**
2.7	a) 0,8 + 1,9 – 0,6 OR = 2,7 – 0,6 ✓ = 2,1 ✓	0,8 + 1,9 – 0,6 = 0,8 + 1,3 ✓ = 2,1 ✓	2	**2RP**
	b) 0,23 x 6 = (0,2 x 6) + (0,03 x 6 = 1,2 + 0,18 ✓ = 1,38 ✓	$^{1}0,^{1}23$ x 6 ✓ 1, 38 ✓	2	**2RP**
	c) 2 ⟌ 0,684 = 0,352 ✓✓		2	**2RP**

QUESTION 3 **[6 marks]**

3.1

Term number	Term
1	$\frac{5}{6}$
2	$\frac{1}{2+4} = \frac{1}{6}$
3	$\frac{1}{6+6} = \frac{1}{12}$
4	$\frac{1}{12+8} = \frac{1}{20}$
5	$\frac{1}{20+10} = \frac{1}{30}$
6	$\frac{1}{30+12} = \frac{1}{42}$
7	$\frac{1}{42+14} = \frac{1}{56}$

✓✓ Understanding that the denominator increases by 2 each time.

✓ Answer of $\frac{1}{56}$

NOTE: It is not necessary for the learners to use a table to work the answer out.

3 **3PS**

3.2

Picture number	Number of steps (rungs)	Number of matches
1	1	2 x 2 + 1 = 5
2	2	2 x 3 + 2 = 8
3	3	2 x 4 + 3 = 11
4	4	2 x 5 + 4 = 14
5	5	2 x 6 + 5 = 17
6	6	2 x 7 + 6 = 20

✓✓ For working out the number of steps (rungs) correctly.

✓ Answer of 20 rungs.

NOTE: It is not necessary for the learners to use a table to work the answer out.

3 **3PS**

QUESTION 4

1 (d) ✓✓ 2 **2K**

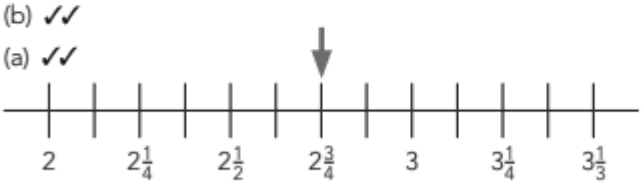
2 (c) ✓✓ 2 **2K**

$4 + 6 \times 3 \div 6 = 4 + (18 \times 6) = 4 + 3 = 7$

3 (b) 13,35 ✓✓ 2 **2RP**

4 (b) ✓✓ 2 **2CP**

5 (a) ✓✓ 2 **2CP**



OR

$(2 + 3\frac{1}{2}) \div 2 = 5\frac{1}{2} \div 2 = \frac{11}{2} \div 2 = \frac{11}{2} \times \frac{1}{2} = \frac{11}{4} = 2\frac{3}{4}$

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.	Fill in the missing values of the following number patterns.
	1.1.1 −28; ___; −20; −16; ___
	1.1.2 24; 12; 0; ___; ____.
	1.1.3 −36; −25; −16; ___; ____.
2.	Write the correct sign between the numbers: greater than, less than or = equal to.
	1.2.1 -9 ___ $-\frac{9}{1}$
	1.2.2 −30 ___ 30
	1.2.3 −100 ___ 101
	1.2.4 −26 ___ 62
3.	Arrange these numbers in ascending order: 300; −320; 302; −300; −302; 320.
4.	Arrange these numbers in descending order: −15; −51; 0; −115; 15; 51.
5.	Add the integers without using a calculator. (You may use a number line.)
	2.1 (−15) + (−6)
	2.2 −8 + 12

SM Assessment 2

Number	Assessment
1.	Subtract the integers without using a calculator. (You may use a number line.)
	3.1 12 − (−14)
	3.2 −10 − 2
	3.3 7 − (−13)
2.	Use the properties of integers to complete the statements.
	4.1.1 8 + (−3) = ___ + 8
	4.1.2 (−6 + 2) + 4 = (−6 + 4) + ___
3.	What fraction is the smallest?
	A $\frac{1}{2}$
	B $\frac{1}{12}$
	C $\frac{1}{4}$
	D $\frac{1}{6}$

4. $\sqrt{36-11}$ is equal to ___.

A 3

B 4

C 5

D 6

5. Convert $\frac{21}{6}$ into a mixed fraction.

A $21\frac{1}{6}$

B $6\frac{1}{2}$

C $1\frac{6}{2}$

D $3\frac{3}{6}$

SM Assessment 3

Number Assessment

1. **Write the following in expanded notation:**

Example: 942 576
= 900 000 + 40 000 + 2 000 + 500 + 70 + 6

a. 154 798 105 _____

b. 592 562 _____

2. **What is the value of 5 in each of the following numbers?**

Example: 532 789
500 000

a. 154 289 _____ b. 5 834 974 _____ c. 45 869 _____

3. **1. Arrange these numbers in ascending order on the number line:**
17 235, 17 347, 18 212, 17 922, 17 211, 17 678.

17 211 ——— 18 212

a. What is the difference between the fourth and sixth number on the number line? _____

4. **Fill in >, < or =:**

Example: 375 894 < 375 984

a. 564 746 ____ 751 023

c. 697 059 ____ 699 059

e. 563 435 ____ 560 640

5. **Round off to the nearest 1 000.**

Example: 789 ≈ 1 000

a. 176 _____ b. 324 _____

d. 8 639 _____ e. 14 342 _____

SM Assessment 4

Number Assessment

1.

	Round off to the nearest 10	Round off to the nearest 100	Round off to the nearest 1 000
a. 2			
b. 7			
c. 48			

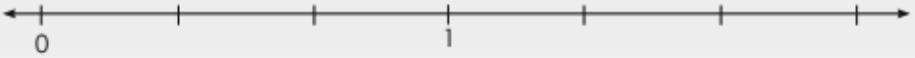
2. **Complete the following:**

a. $\frac{1}{4}; \frac{2}{4}; \ldots 1$ b. $\frac{1}{9}; \frac{2}{9}; \frac{3}{9}; \ldots 1$ c. $\frac{1}{11}; \frac{2}{11}; \frac{3}{11}; \ldots 1$

Where in daily life do we need to know about fractions and number lines?

3. **Complete the number lines:**

a.



4. **Write down:**

a. Five proper fractions.

b. Five improper fractions.

5. Factors of 6 and of 12

Number **SM Assessment 5**

Assessment

1. **Example:** 4,326
= 4 units + 3 tenths + 2 hundredths + 6 thousandths

a. 5,376

b. 8,291

2. **3. Write the following in the correct column:**

		thousands	hundreds	tens	units		tenths	hundredths	thousandths
a.	4,765				4	,	7	6	5
b.	18,346					,			

3. **Write the following in ascending order:**

a. 0,04; 0,4; 0,004

b. 0,1; 0,11; 0,011

4. **Fill in <, >, =**

a. 0,4 ☐ 0,04 b. 0,05 ☐ 0,005 c. 0,1 ☐ 0,10

d. 0,62 ☐ 0,26 e. 0,58 ☐ 0,85 f. 0,37 ☐ 0,73

5. **Write as a decimal fraction:**

Example: $\frac{5}{100}$

$= 0,05$

a. $\frac{6}{10}$ b. $\frac{7}{10}$ c. $\frac{8}{1\,000}$

SM Assessment 6

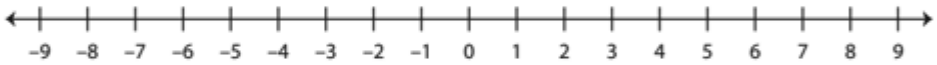
Number Assessment

1. A) Write any two equivalent ratios for each ratio.

1) 1 : 2 2) 4 : 9

2. Use the number line to find the sum.

1) 4 + (−5) = _____



3. Solve.

1) $4+\left(\frac{1}{2}\right)^3 \times 32$

Ans = ☐

4. A) Find the values of the following.

1) $\left(\frac{9}{2}\right)^2$ 2) $\left(\frac{7}{3}\right)^2$

5. Find the sum.

1) 8 + 20 = _____ 2) (−15) + (−3) = _____

SM Assessment 7

Number	Assessment
1.	4(5 + 2) is equal to ___. A (4 × 5) + (4 × 2) B (5 + 4) × (5 + 2) C (2 × 4) + (2 × 2) D (4 + 5) × (4 + 2)
2.	The sum of 31 313 + 26 262 is ___. A 57 557 B 57 575 C 55 757 D 75 757
3.	In the number 7^3, the number seven is a ___. A exponent B power C square D base
4.	The number ___ is an example of an even prime number. A 4 B 6 C 2 D 7
5.	30% of R50 is ___. A $\frac{30}{100} \times \frac{50}{1}$ B $\frac{100}{30} \times \frac{50}{1}$ C $\frac{3}{100} \times \frac{50}{1}$ D $\frac{300}{10} \times \frac{50}{1}$

SM Assessment 8

Number	Assessment
1.	Writing numbers in ascending order means: A to write the numbers from the biggest to the smallest B to write the numbers from top to bottom
2.	Write 2 × 2 × 2 × 2 × 2 in exponential form.

3.

1. Calculate using both methods. Check your answer.

Example 1: 2,37 + 4,53
= (2 + 4) + (0,3 + 0,5) + (0,07 + 0,03)
= 6 + 0,8 + 0,1
= 6,9

Example 2:
2,37
+ 4,53
6,90

Make sure the commas are under each other.

Note that 6,9 and 6,90 are the same.

a. 3,12 + 4, 57 =

b. 5,34 + 2,26 =

You can check your answer using the inverse operation of addition, that is subtraction.

4.

Look at the following pictures. Make up your own addition, subtraction and multiplication sum for each.

5.

Complete these flow diagrams. Round off to the nearest whole number.

a.

R0,50

Divide by 2

Round off to the nearest rand

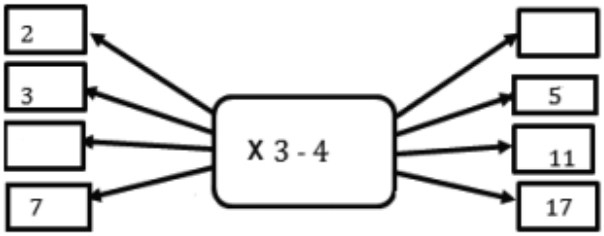
SM Assessment 9

Number Assessment

1. Which number is 12 million **more than** 375 826 307?

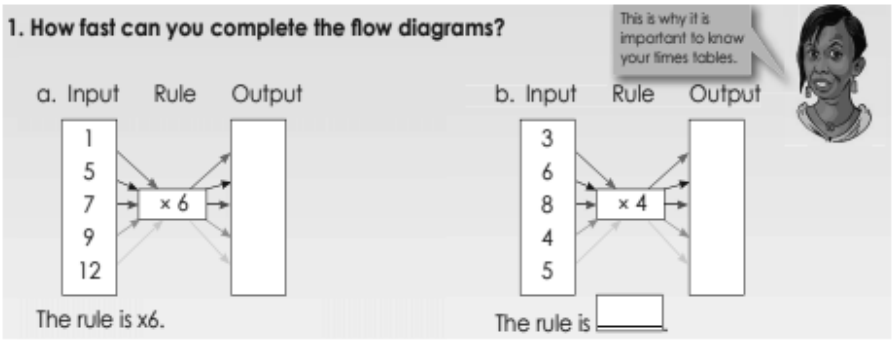
A 363 826 307
B 253 826 307
C 387 826 307
D 375 946 195

2. Complete the flow diagram by filling in the missing numbers:

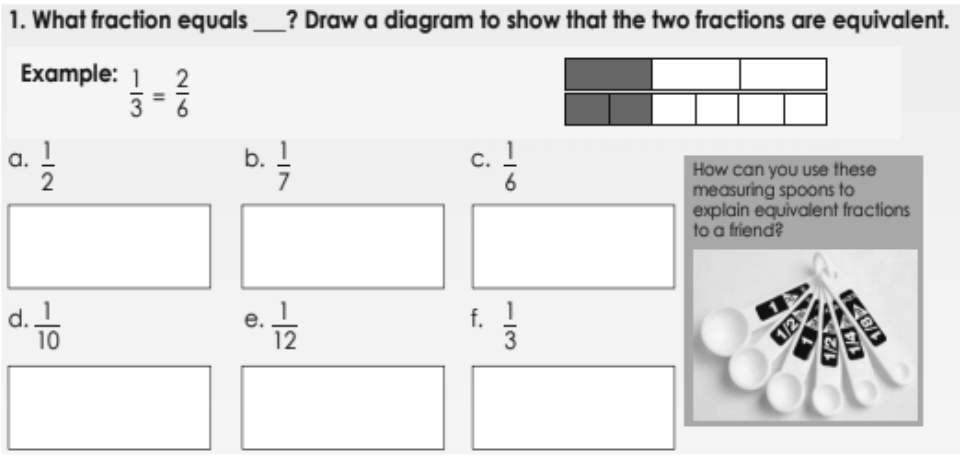


3. Estimate the answers by rounding off to the nearest 100.
1 676 + 14 234

4.



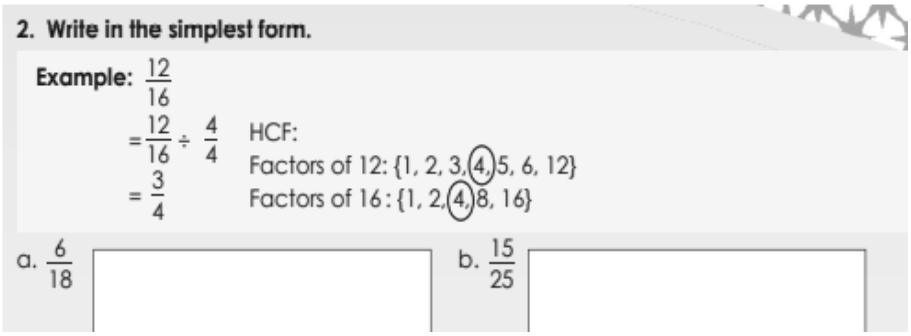
5.



SM Assessment 10

Number Assessment

1.



2. The prime factorisation of 120 is ____.

A PF120 = 2 × 2 × 3 × 5 × 5

B PF120 = 2 × 2 × 3 × 3 × 5

C PF120 = 2 × 2 × 2 × 3 × 5

D PF120 = 2 × 2 × 2 × 2 × 5

3. Use BODMAS/BEDMAS to calculate:

3.2.1 $(4^2 + \sqrt[3]{64}) \div 2$

3.2.2 $\sqrt[2]{100-36}$

4.

Problem solving

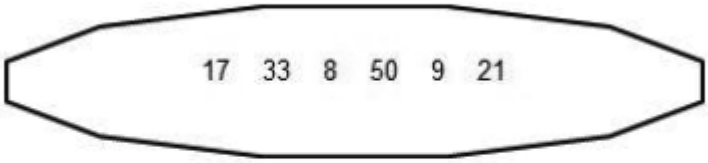
What is $\frac{324}{414}$ in its simplest form?

5. $\frac{5}{6} + \frac{3}{6} =$ ☐

SM Assessment 11

Number Assessment

1.



A prime number: _____

A multiple of 10: _____

2. What is the value of the underlined digit in 82 3**9**4 782?

_____

3. Twenty articles cost R120 and are sold for R7,50 each. Calculate the total profit.

_____

4. Find the value of x in the following:

$x \div 4 = 36 \div 3$

$x =$ _____

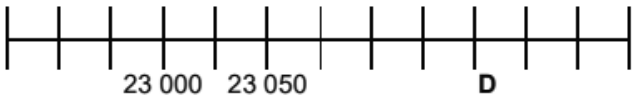
5. Round 347 659 off to the nearest 100 000.

A 300 000
B 348 000
C 350 000
D 400 000

SM Assessment 12

Number Assessment

1. Which number is represented by the **D** on the following number line?



2. Write the number in digits.
Two hundred and eighty three thousand one hundred and sixty-four.
_____

3. **Between what two ten-thousands do the following numbers lie:**

a. 14 789	14 000	15 000	b. 13 472		
c. 12 234			d. 15 893		

4.

a. 44 321	b. 233 339	c. 929 956
	9	

5. **Look at the fractions and compare the two blocks. What differs between the numbers in the two blocks?**

$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{3}$	$\frac{1}{4}$
$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{6}$

$\frac{2}{4}$	$\frac{5}{6}$	$\frac{3}{8}$	$\frac{5}{7}$
$\frac{2}{8}$	$\frac{2}{7}$	$\frac{3}{4}$	$\frac{3}{6}$

A unit fraction nominator is always 1 and a non-unit fraction nominator is always more than one.

Multiply the numbers of the same colour in each block together. Compare the two sets of calculations.

□	×	□	= □
□	×	□	= □
□	×	□	= □
□	×	□	= □

□	×	□	= □
□	×	□	= □
□	×	□	= □
□	×	□	= □

What happens with the denominators if you multiply them?
Remember:
- If you multiply unit (unitary) fractions, the product is a unit fraction.
- If you multiply non-unit fractions together, or a non-unit fraction with a unit fraction, the product is a non-unit fraction.

1. Calculate:

Example 1: $\frac{6}{7} \times \frac{5}{7}$

$= \frac{30}{49}$

Example 2: $\frac{6}{7} \times \frac{5}{6}$

$= \frac{30}{42}$

SM ASSESSMENT 13

Number Assessment

1. **Write the numbers in digits.**

1.1. two hundred and thirty-five thousand, six hundred and eleven

_____

1.2. eight hundred thousand, eight hundred and eighty-eight

_____

2. **Give the values of the underlined digits.**

2.1. 347 685 _____

2.2. 804 967 _____

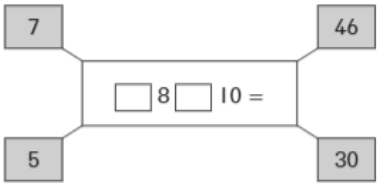
3. **Highlight the odd numbers.**

248 365 8 744 705 000 16 921

4.

42 ÷ 7 = _____	7 × _____ = 56	48 ÷ 4 × 6 = _____
_____ × 6 = 54	6 × 6 = _____	54 ÷ 9 = 30 ÷ _____

5. **Fill in +, −, × or ÷ to complete the rules in the flow diagrams.**



SM ASSESSMENT 14

1. The lowest common multiple of 5 and 7, is …

A 5

B 35

C 12

D 7 (1)

2. In $6x + 2$, the variable is …

A $6x$

B $6x + 2$

C x

D 6 (1)

3. 32 written as a product of its prime factors is …

A 1×32

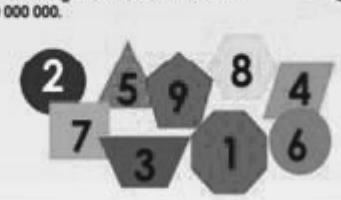
B 2×16

C $2 \times 2 \times 2 \times 2 \times 2$

D $2 \times 4 \times 4$ (1)

4. Use any digits to make five different 9-digit numbers smaller than 999 999 999 but bigger than 500 000 000.

a. _____



5. Write the following in numbers:

a. One million six hundred and thirty two thousand five hundred and eighty one.

_____

SM ASSESSMENT 15

1. Round the numbers off to the nearest 10:

a. 18 _____

b. 21 _____

c. 376 _____

2. List the factors of 24 in factor pairs.

_____

3. **Round off to the nearest 10. Circle the digit which you look at when deciding whether to round up or down to the nearest 10. Complete the sentences.**

a. 345 88(2) is between 345 880 and 345 890 and would be rounded to 345 880

b. 278 947 is between _____ and _____ and rounded to _____

4. **Write the times as 24-hour times. Include the morning and evening times.**

_____

_____

5. Copy and complete each number line.

a.

SM ASSESSMENT 16

1. What percentage is 1 200 of 5 000?

A 24%

B 50%

C 38%

D 12% (1)

2. What is the value of $3 - \frac{k}{2}$ if $k = 4$?

A 4

B 1

C 2

D −2 (1)

3.

x	1	2	3	4
y	4	5	6	7

The relationship between x and y is …

A $y = 5 \times x$

B $y = 3 \times x$

C $y = x + 4$

D $y = x + 3$ (1)

4.

a. Multiples of 2 and 4.

b. Multiples of 3 and 6.

5.

Arrange these numbers from smallest to biggest.

a. 66 651; 65 561; 65 651; 66 156; 66 615

Underline the even numbers in green.

SM ASSESSMENT 17

Number Assessment

1. Write these numbers in words.

a. 542 618 b. 214 037 c. 447 182

2. Round off

		ten	hundred	thousand
a.	92			
b.	348			
c.	2 871			

3. Calculate without using a calculator. Show the calculation steps where needed.

$$1\,643\,884 + 262\,206$$

4.

$$6\,517 \div 31$$

5. 315×236

SM ASSESSMENT 18

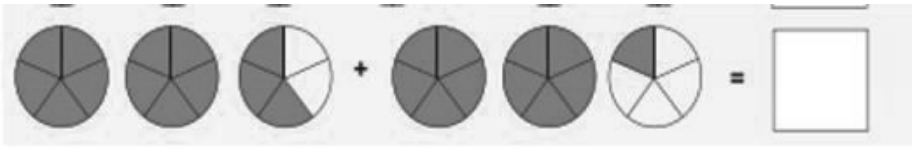
1. Simplify

$$2^3 \times 1^4$$

2. $\sqrt{144} + 6^2$

3. Compare these numbers. Write both numbers down and insert > < or =.

a. 155 645 * 155 654 b. 101 111 * 101 110 c. 773 575 * 773 575

4. 

5. $6\frac{1}{4} - 2\frac{2}{4}$

$= (5 + 1 + \frac{1}{4}) - (2 + \frac{2}{4})$

$= (5 + \frac{5}{4}) - (2 + \frac{2}{4})$

$= (5 - 2) + (\frac{5}{4} - \frac{2}{4})$

$= 3\frac{3}{4}$

e. $8\frac{3}{5} - 4\frac{4}{5}$

$=$ _____

$=$ _____

$=$ _____

$=$ _____

$=$ _____

SM ASSESSMENT 19

1. Simplify

$$\frac{3}{5} \times \frac{7}{6}$$

2. $0{,}012 \div 4$

3. $100 - 12 \div (8 + 4)$

4.

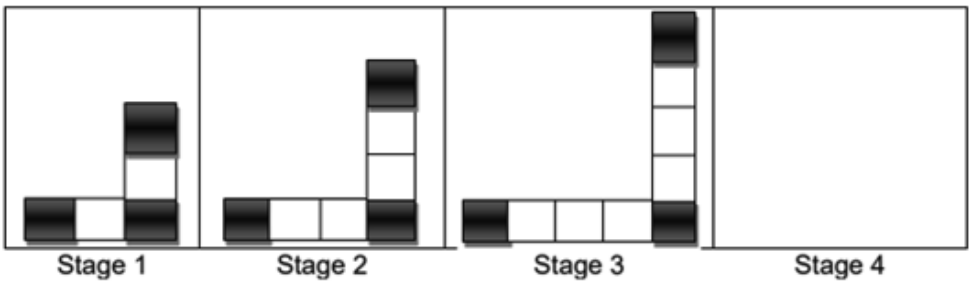
a. 44 321	b. 233 339	c. 929 956
	9	

5.

Common Fraction	Decimal Fraction	Percentage
$\frac{1}{2}$	0,5	50%
$\frac{7}{10}$		

SM ASSESSMENT 20

1. Look at the following pattern.



Draw stage 4 in the space provided.

2. **Determine if the following expressions are equivalent to each other. Insert an = if they are the same and ≠ if they are not.**

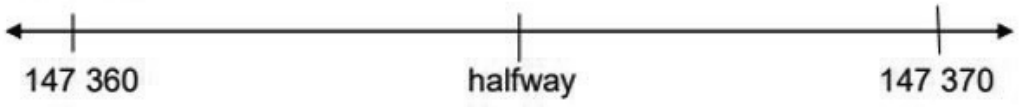
a. $(2 + 5) \times 3 \_\_ (2 \times 3) + (5 \times 3)$

b. $4 - 2 \_\_ 2 - 4$

3. **Estimate and then calculate the following:**

a. $2\,500 \div 40 =$ _____

4. Which number on a number line is **halfway** between 147 360 and 147 370?



A 147 375
B 147 385
C 147 365
D 147 355

5. Farm workers picked 324 587 pears during the morning. After lunch they picked more pears. By the end of the day, they had 866 463 pears.

How many pears did they pick after lunch?