

# IGATE Diagnostic tool version B: Numeracy

## Notes

-  = Learner writes; you will need to provide writing materials.
- Paper should also be provided for drawing or jottings throughout.
- You will need to make number cards for questions A5 and C3.
- You will ask the questions **orally** and record the answers on the class record sheet. When the form is complete, it will show you areas on which to focus your teaching.
- If a learner clearly cannot understand the English, repeat the question in the home language and put a tick in the box on the recording sheet.

## Instructions

- Choose a section which you feel best suits the learner's current attainment and begin asking questions there. (*Most learners will begin at Section B or C.*)
- If the learner is clearly finding the questions in that section too difficult, stop that section and ask questions from the previous section.
- Continue working through the sections.
- Stop when the learner makes 4 consecutive errors.

## Section A

**A1.** Count the suns. (*see learner sheet*) **Answer: 14**

**A2.** Can you count up from 1 to 21 and back to 0?

**A3.** Can you count from 8 to 13?

**A4.** Point to 7. Point to 12. Point to 20. (*see learner sheet*)

**A5.** Arrange the number cards in order from the smallest to the biggest. (*Place cards on the table in the order 21,6,16,9,12.*)

**A6.**  Write the answers to these calculations. (*See learner sheet. If answer is correct but number formation is incorrect, mark as correct*) **Answers: a:7 b:5 c:18 d:7**

## Section B

**B1.** How many sticks? (*see learner sheet*) **Answer: 23**

**B2.** What number is missing? (*see learner sheet*) **Answers: a:20 b:28**

**B3.** Listen and answer the questions.

a. This question is about oranges. If you have 11 oranges and your friend has 6 oranges, how many oranges are there altogether? **Answer: 17 oranges**

b. This question is about mangoes. If I have 11 mangoes and my friend eats 6, how many do I have left? **Answer: 5 mangoes**

**B4.** Listen and answer the questions.

a. What is 6 times 4? **Answer: 24**

b. What is 20 divided by 5? **Answer: 4**

**B5.** What is 10 more than 79? **Answer: 89**

## Section C

C1. I'm going to ask you to do some counting.

- a. Count on from 98 to 105.
- b. Count back from 102 to 95.

C2. Write these numbers: Forty-five. Sixteen. Two hundred and eleven. One hundred and three. (*all need to be correct*)

C3. Put these number cards in order from smallest to biggest. (*Put cards on table in this order: 103,302,78,128,312.*)

C4. Write the answers to the calculations, showing your workings. (*see learner sheet*)  
**Answers: a:213 b:93**

C5. This question is about children in a school. There are 307 children altogether. 125 go on a field trip. How many are left in school? **Answer: 182**

## Section D

D1. Which of these shapes show  $\frac{1}{4}$  or fractions that are equal (equivalent) to one quarter? (*see learner sheet*) **Answer: All but the first one**

D2. Point to the fraction that is bigger. **Answer: a:  $\frac{1}{5}$  b:  $\frac{5}{3}$**

D3. Add  $\frac{2}{10}$  and  $\frac{3}{10}$  (*write the fractions for the learner as you ask the question*)

**Answer:  $\frac{4}{10}$  or  $\frac{2}{5}$**

D4. What is two thirds of 24? **Answer: 16**

D5. A school has  $2\frac{1}{4}$  litres of Mazoe for drinks for sports day. If  $\frac{3}{4}$  of a litre is used after the first race, how much is left? **Answer:  $1\frac{1}{2}$  litres**

## Section E

E1. Listen and answer the questions.

I travel 175 km from my village to Bulawayo, and my friend travels 250 km from their village to Bulawayo. (*point to places on illustration below as you speak*)

- a) To visit my friend I have to catch a bus to Bulawayo and then catch another bus to her house. (*point to illustration*) How many km do I travel? **Answer: 425km**
- b) How much shorter is my journey to Bulawayo than my friend's journey? (*point to illustration*) **Answer: 75km shorter**

E2.  Write the answers to the calculations, showing your workings (*see learner sheet*) **Answers: a:75 b:13**

E3. Listen and answer the questions.

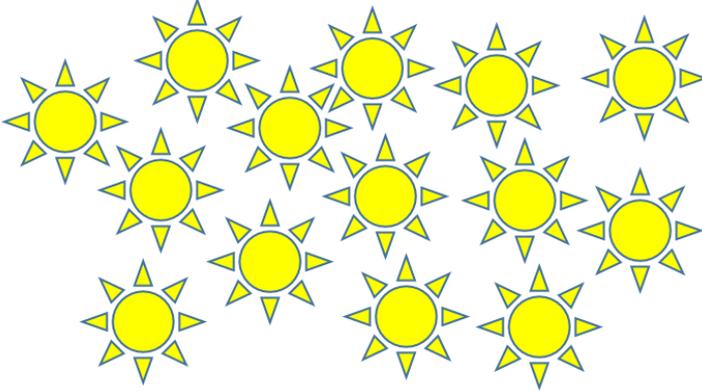
- a) I have \$15 on my phone. I use \$3,00 a day. For how many days can I use my phone? **Answer: 5 days**
- b) If I sell 12 chickens for \$6 each, how much money do I receive? **Answer: \$72**

E4. I buy a bag of mealie-meal for \$5,50, a butternut for \$1,80 and a bar of soap for \$2,20. How much must I pay? **Answer: \$9,50**

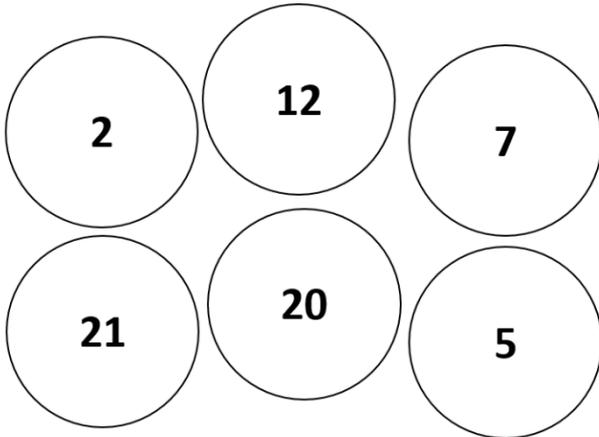
# IGATE Diagnostic tool: Numeracy Test 1 LEARNER SHEET

## SECTION A

A1



A4

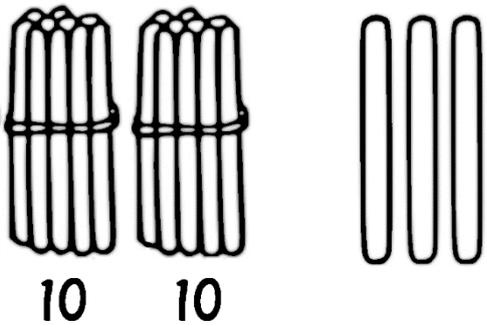


A6

- a.  $5 + 2 =$
- b.  $8 - 3 =$
- c.  $13 + 5 =$
- d.  $16 - 9 =$

## SECTION B

B1



B2

- a. 23, 22, 21, \_\_\_\_, 19
- b. 24, 26, \_\_\_\_, 30, 32

### SECTION C

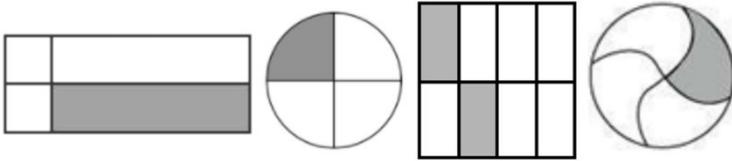
C4

a.  $138 + 75 =$

b.  $167 - 74 =$

### SECTION D

D1



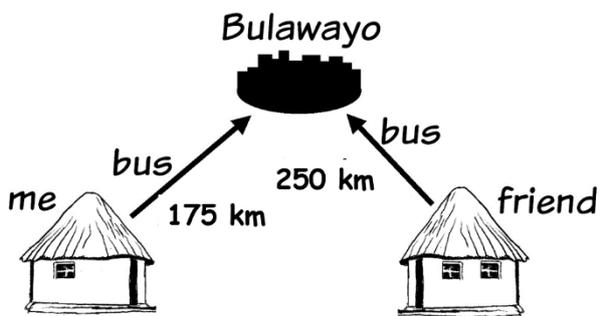
D2

a.  $\frac{1}{5}$        $\frac{1}{10}$

b.  $\frac{3}{5}$        $\frac{5}{3}$

### SECTION E

E1



E2

a.  $25 \times 3 =$

b.  $52 \div 4 =$

# Using the results of the Numeracy diagnostic tool

Question number	Total correct answers for class	Skill or concept	Supporting module activities
A1		Counting up to 20 objects	Mod. 1, Activity 1.2 (slowly increase to 20)
A2		Counting forward and back orally within 20	Mod. 1, Activity 1.1 steps 1-3 then Mod. 2, Activity 2.1
A3		Counting on from a number	Mod. 2, Activity 2.1
A4		Reading written numbers	Mod. 1, Activity 1.1
A5		Arranging numerals in order	Mod. 1, Activity 1.1 steps 4-6 (slowly increase to 20)
A6a		Addition of whole numbers less than 10	Mod. 1, Unit 3 All activities
A6b		Subtraction of whole numbers within 10	Mod. 2, Activity 1.3
A6c		Addition of whole numbers less than 20	Mod. 2, Activity 2.2
A6d		Subtraction of whole numbers within 20	Mod. 2, Activity 3.1 steps 4-7 (increase to within 20)
B1		Place value within 50	Mod. 2, Activity 2.3
B2a		Supplying missing numbers in sequence (backwards, ones)	Mod. 2, Activity 2.1 (use bigger numbers)
B2b		Supplying missing numbers in sequence (forwards, twos)	Mod. 4, Activity 2.2
B3a		Addition in everyday contexts	Mod. 2, Activity 3.1 steps 1-3 (add contexts)
B3b		Subtraction in everyday contexts	Mod. 2, Activity 3.1 steps 4-7 (add contexts)
B4a		Multiplication of two single numbers in context	Mod. 3, Activity 3.1 (add context when concept understood)
B4b		Division of whole numbers (two digit by one digit, in context)	Mod. 3, Activity 1.3 (add context when concept understood)
B5		Identification of a number ten more than any two digit number	Mod. 2, Activity 2.3
C1a		Counting on across 100	Mod. 2, Activity 2.3 'In Practice'
C1b		Counting backwards across 100	Mod. 2, Activity 2.1 (counting across 100)
C2		Writing two and three digit numbers using numerals	Mod. 3, Activity 1.1 then Mod. 3, Act. 1.2 and 1.3
C3		Arranging numerals in order	Mod. 3, Activity 1.3

C4a		Addition of two and three digit numbers including carrying	Mod. 3, Activity 2.1 then Activity 2.3 and Activity 3.2
C4b		Subtraction of two and three digit numbers requiring regrouping (exchange)	Mod. 3, Activity 2.2 then Activity 3.1 and Activity 3.3
C5		Subtraction in everyday context	Mod. 3 Units 2 and 3, include contexts
D1		Identification of fraction shaded in diagram	Mod. 6, Activity 1.1 Steps 1-8
D2a		Comparing fractions	Mod. 6, Activity 1.1 Step 9
D2b		Comparing fractions	Mod 6, Activity 1.2
D3		Addition of two proper fractions, same denominator	Mod. 6, Activity 2.2
D4		Identification of fractions of quantities	Mod. 6, Activity 2.1
D5		Subtraction of fractions from mixed numbers (same denominator)	Mod. 6, Activity 2.3
E1a		Addition of three digit numbers in everyday context	Mod. 3, Units 2 and 3, include contexts
E1b		Subtraction of three digit numbers in everyday contexts	Mod. 3, Units 2 and 3, include contexts
E2a		Multiplication of two digit by one digit numbers	Mod. 5, Activity 2.1 then Activity 2.2
E2b		Division of two digit by one digit numbers	Mod. 5, Activity 3.1 then Activity 3.2
E3a		Division in everyday contexts	Mod. 5, Activity 3.3
E3b		Multiplication in every day contexts	Mod. 5, Activity 3.3
E4		Addition of decimal numbers (in context)	Mod. 6, Activity 3.2 (introduce context when concept understood)

