a



**Maths**

**Cohort** Secondary

**Country** Afghanistan

**Language** English/Dari



**Note:** This is an assessment used in classrooms for the Schools2030 programme. It is being shared to demonstrate the approaches to assessment that Schools2030 is developing.

For those interested in using or adapting this tool, further information including teacher guides, psychometric analysis, and other supplementary materials are available on request.



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| **UNDERSTANDING AND USE OF NUMBERS** | |
| ITEM 1 | **1.** What is the ratio of 16 to 32?  **Answer:**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
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|  | **2.** How do you write “Quarter past three o’clock” in numbers?  **Answer:**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **3.** Which one of the numbers below is divisible by three?   |  |  | | --- | --- | | **A.** 342 |  | | **B.** 51 |  | |

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| **GEOMETRY AND MEASUREMENTS** |

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| ITEM 2 | **1.** Two decimetre equals to \_\_\_\_\_ cubic centimetres. Use this space for calculations.  **2.** If the circumference of a circle is 264 cm, how much is its diameter? Use this space for calculations.  https://dr282zn36sxxg.cloudfront.net/datastreams/f-d%3Acfe6c58b514eafd1a2ae6b69c99f7edcdb2abf73ecb90b56aec1ee45%2BIMAGE_TINY%2BIMAGE_TINY.1  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
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| **UNDERSTANDING AND USE OF NUMBERS** |

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| ITEM 3 | Please look at the table below. You can see some numbers – in words and symbols in the left column. You can use another paper sheet for calculations.  Please make the calculation and write the total number in the right-hand column.   |  |  | | --- | --- | | **Numbers (in symbols)** | **Write your answer in this column** | | **A.** 300 + 20 + 5 |  | | **B.** 3 × 103 |  | | **C.** One hundred eighty less than one thousand |  | |
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| **ALGEBRA** |

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| ITEM 4 | **1.** What is the missing number in the below series of numbers? Write the correct missing number in the blank space. |
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|  | |  |  |  | | --- | --- | --- | | **A.** | 2 4 8 \_\_ 32 |  | | **B.** | 100 80 60 \_\_ |  |   **2.** Fill in the blank space with appropriate numbers.   |  |  | | --- | --- | | **A.** | 46 +  = 62 | | **B.** | 4 ×  = 36 | | **C.** | 225/ = 15 | |

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| **NUMBERS** |

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| ITEM 5 | Now look at the line below.  Which fractions do the question marks (?) on the line display?    Please write the correct number under each question mark on the number line. |
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| **NUMBERS** |

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| ITEM 6 | **1.** How much is half of half of an apple? Show in fraction.  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **2.** How do you compute half of a half of an amount or object in mathematical symbols? Write the calculation.  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
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| **NUMBERS** |

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| ITEM 7 | Please answer the following questions below:  **1.** How much is 25% of 200 Afs?  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **2.** How do you show 25% in both common and decimal fractions?  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
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| **DATA HANDLING AND STATISTICS** |

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| ITEM 8 | The height of your 9 classmate is measured and shown in the table below:   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Student No.** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | | Height (cm) | 150 | 155 | 170 | 155 | 162 | 157 | 158 | 155 | 160 |   **1.** Which of the student is the tallest?  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **2.** Which one is the shortest?  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **3.** What is the average height of these group of students? Use this space for calculation.  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **4.** What is the median point where half of the students are above, and the other half are below this height? Use this space for calculations.  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
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| **KNOWLEDGE APPLICATION** |

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| ITEM 9 | **1.** Now imagine that you have a banknote of 100 AFs. How many of the things below can you purchase with this money?   |  |  |  | | --- | --- | --- | | **20 Afs** | **50 Afs** | **30Afs** | | Ballpoint Pen |  |  |  |  |  | | --- | --- | | **A.** How many pens only? |  | | **B.** How many notebooks only? |  | | **C.** How many colour pencils boxes only? |  | |
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|  | **2.** Please write the following statements in math language. Write your answers in the right column of the table.   |  |  | | --- | --- | | **Numbers (in symbols)** | **Write your answer in this column** | | **A.** Two times “n” |  | | **B.** Half of “n” |  | | **C.** Sum of “n “and “a” |  | | **D.** Difference of “n “and “a” |  | |

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| **GEOMETRY** |

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| ITEM 10 | You can see 4 different rectangles below. The first rectangle has a perimeter of 16 cm. Now look at the other rectangles and tell me: |
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|  | **Four rectangles with different surfaces**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | 1 |  |  |  | 1 | 2 |  |  |  | 1 | 2 | 3 |  |  |  | 1 | 2 | 3 | 4 | | 1 |  |  |  | 1 |  |  |  |  | 1 |  |  |  |  |  | 1 |  |  |  |  | | 2 |  |  |  | 2 |  |  |  |  | 2 |  |  |  |  |  | 2 |  |  |  |  | | 3 |  |  |  | 3 |  |  |  |  | 3 |  |  |  |  |  | 3 |  |  |  |  | | 4 |  |  |  | 4 |  |  |  |  | 4 |  |  |  |  |  | 4 |  |  |  |  | | 5 |  |  |  | 5 |  |  |  |  | 5 |  |  |  |  |  |  |  | **D** | |  | | 6 |  |  |  | 6 |  |  |  |  |  |  | **C** |  |  |  |  |  |  |  |  | | 7 |  |  |  |  | **B** | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | **A** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   **1.** How many rectangles with different perimeters can you find?  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **2.** Calculate the surface of each rectangle.  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **3.** Which rectangle is actually a square? How do you know?  **Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |