**Worksheet # 1**

**17.04.2014**

**by Tuğba Özcan**

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| The table shows the first four terms of a sequence.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Term 1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** | **Term 7** | | **10** | **20** | **40** | **80** |  |  |  |  1. Find the ratio between two consecutive terms. 2. What kind of relationship between the ratios that you have found? 3. Find the next three terms. Are there any pattern? 4. Try to find a short way to find the 20th term. 5. By concerning the solution in 4, try to find the formula of the nth  term of the sequence. |

**Worksheet # 2**

**17.04.2014**

**by Tuğba Özcan**

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| **1.** Determine if the sequence is geometric. If it is, find the common ratio.   |  |  |  | | --- | --- | --- | | 1. -1, 6, -36, 216, ... | 1. 4, 16, 36, 64, ... | 1. -1, 1, 4, 8, ... |   **2.** Given the explicit formula for a geometric sequence find the first five terms and the 8th term.   |  |  | | --- | --- | | 1. *an=3n-1* | 1. *an=-2.5∙ 4n-1* |   **3.** Given the recursive formula for a geometric sequence find the common ratio, the first five terms, and the explicit formula.   |  |  | | --- | --- | | 1. *an= an-1∙ 2*   *a1 = 2* | 1. *an= an-1∙ 5*   *a1 = 2* |   **4.** Given a term in a geometric sequence and the common ratio find the first five terms, the explicit formula, and the recursive formula.   |  |  | | --- | --- | | 1. *a1 = 4, r = 5* | b) *a4 = 25, r = -5* | |

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| **5.** Given two terms in a geometric sequence find the 8th term and the recursive formula.   |  |  | | --- | --- | | 1. *a4 = -12 and a5 = -512* | 1. *a5= 768 and a2 = 12* |   **6.** The number of pupils in a school increases at the rate of 5% per annum. When the school opened there were 200 pupils on the roll. How many pupils will there be in the school on the 10th anniversary of the opening?   |  | | --- | |  |     **7.** A novice swimmer can complete the 50m breaststroke in 36s. He follows a program designed to increasing improve his performance by 4% each year. How fast will he complete the 50m breaststroke after six years of the program?   |  | | --- | |  |     **8.** If the perimeter of the equiangular triangle ABC is x cm. The mid points of the sides are joined to form a smaller triangle and the process goes on as in the diagram. If the perimeter of the 6th triangle is 3cm. Find the value of x.   |  |  | | --- | --- | |  |  | |

**Rubric for Evaluation of Group Work**

**E: Excellent**

**G: Good**

**NI: Needs Improvement**

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|  | Student provided useful ideas and was a definite leader who contributed a lot of effort. | | | Student consistently focused on the task and what needed to be done. Very self directed. | | | Student almost always listened to, shared with and supported the efforts of others. | | | Student kept a positive attitude about the task. | | |
| **Student** | **E** | **G** | **NI** | **E** | **G** | **NI** | **E** | **G** | **NI** | **E** | **G** | **NI** |
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