Math 3H Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Per:\_\_\_

11.3 Finite Geometric Series

**For each geometric sequence find the common ratio, write the explicit formula, and find the 8th term.**

|  |  |  |
| --- | --- | --- |
| 1. $3,9,27,81,…$
 | 1. $1,5,25,125,…$
 | 1. $1,4,16,64,…$
 |
| 1. $3,18,108,648,…$
 | 1. $1,-4,16,-64…$
 | 1. $-2, -4,-8,-16,…$
 |

**Write each series in sigma notation.**

|  |  |  |
| --- | --- | --- |
| 1. $ 2+8+32+128+512$
 | 1. $-1-6-36-216$
 | 1. $-3-15-75-375$
 |
| 1. $3+9+27+81$
 | 1. $-1+6-36+216-…+7776$
 | 1. $-3-9-27-81-243$
 |

**Find the common difference, write the explicit formula, and find the 52nd term.**

|  |  |
| --- | --- |
| 1. $6, 10, 14, 18, $. . .
 | 1. $2, 5, 8, 11,$ . . .
 |
| 1. $10, 40, 70, 100,$ . . .
 | 1. $-17, -15, -13, -11,$ . . .
 |

**Write each series in sigma notation.**

|  |  |
| --- | --- |
| 1. $13, 16, 19, 22$
 | 1. $25, 32, 39, 46, 53$
 |
| 1. $7, 16, 25, 34, 43, 52$
 | 1. $-2, 5, 12, 19, 26, 33$
 |

**Divide.**

|  |  |
| --- | --- |
| 1. $\left(x^{3}+7x^{2}+3x-21\right)÷\left(x+3\right)$
 | 1. $\left(9b^{3}+47b^{2}+12b+12\right)÷\left(b+5\right)$
 |