Math on the Fly!

NAME: _____ DATE: _____

Geometric Sequences and Series

For problems 1–6, find the next two terms of each geometric sequence.

1. 3, 15, 75, __ , __

2. 16, 8, 4, __ , __

3. –6, 18, –54, __ , __

4. –243, –81, –27, __ , __

5. 8, 12, 18, __ , __

6. $\frac{3}{4}$, $\frac{6}{12}$, $\frac{12}{36}$, __ , __

Find the sum of the first 5 terms of each geometric series.

7. 5 + 15 + 45 +…

8. 200 + 100 + 50 +…

9. (–3) + (12) + (–48) +…

10. (–625) + (–125) + (–25) +…

11. 2 + 5 + 12.5 +…

12. $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ +…

SOLUTIONS

1. 375, 1875 (Multiply 5)

2. 2, 1 (Multiply 1/2 or Divide by 2)

3. 162, –486 (Multiply –3)

4. –9, –3 (Multiply 1/3 or Divide by 3)

5. 27, 40.5 (Multiply 1.5)

6. $\frac{24}{108}$, $\frac{48}{324}$ (Multiply 2/3)

7. $5 + 15 + 45 + 135 + 405 = 605$

8. $200 + 100 + 50 + 25 + 12.5 = 387.5$

9. $(-3) + (12) + (-48) + (192) + (-768) = -615$

10. $(-625) + (-125) + (-25) + (-5) + (-1) = -781$

11. $2 + 5 + 12.5 + 31.25 + 78.125 = 128.875$

12. $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} = \frac{31}{32}$ or 0.96875