Geometric Series Name: _____

$$a_n = a_1 r^{n-1} \qquad S_n = a_1\left(\frac{1-r^n}{1-r}\right)$$

Hour: _____

For each geometric series, find the indicated sum.

1. 1 + 3 + 9 + 27+… $S_8 =$ _____
2. -2 – 4 – 8 – 16 – 32 – … $S_6 =$ _____
3. 3 + 6 + 12 + 24 + 48 + … $S_{10} =$ _____
4. 4 + 12 + 36 + 108 + … $S_5 =$ _____
5. 1 + 7 + 49 + 343 + 2401 + … $S_9 =$ _____
6. 1 + 5 + 25 + 125 + 625 + … $S_{15} =$ _____
7. 20 + 10 + 5 + 2.5 + 1.25 + … $S_5 =$ _____
8. -1 + 1 – 1 + 1 – 1 + 1 – 1 … $S_{40} =$ _____
9. 1 + 2 + 4 + 8 + 16 + 32 + … $S_7 =$ _____
10. 100 + 20 + 4 + $\frac{4}{5} + \cdots$ $S_4 =$ _____

Is the sequence arithmetic or geometric? If arithmetic, find the common difference, d. If geometric, find the ratio, r. If it is neither leave d = ___ or r =___ blank. Then find the given term.

	Arithmetic or Geometric	d = or r =	Term
11. 256, 64, 16, 4, 1, ...	_____	__ = _____	25th term_____
12. 9, -1, -11, -21, …	_____	__ = _____	10th term_____
13. 47, 60, 73, 86, …	_____	__ = _____	9th term_____
14. 3, -18, 108, -648, …	_____	__ = _____	15th term_____
15. 1, 4, 9, 16, 25, …	_____	__ = _____	7th term_____