Honors Math 3


# Sequences Review

**Find the common difference.**

1) $a_{15} = 106$ and $a_{30} = 241$

A) $d = 7$ B) $d = -5$
C) $d = 9$ D) $d = -7$

2) $a_{20} = 43$ and $a_{39} = 81$

A) $d = 2$ B) $d = -1$
C) $d = 1$ D) $d = 4$

**Find the 52nd term.**

3) $a_1 = -16,\ d = 5$

A) $a_{52} = 238$ B) $a_{52} = -272$
C) $a_{52} = 243$ D) $a_{52} = 239$

**Find the 8th term.**

4) $a_1 = -5,\ r = \frac{3}{4}$

A) $a_8 = -\frac{2187}{4096}$

B) $a_8 = \frac{262144}{6561}$

C) $a_8 = -\frac{10935}{16384}$

D) $a_8 = \frac{729}{1024}$

**Find the sum of the series.**

5) $a_1 = 10,\ a_n = 70,\ n = 13$

A) 1048 B) 2096
C) 520 D) 1040

**Determine the number of terms:**

6) $a_1 = 17,\ a_n = 369,\ S_n = 8685$

A) 45 B) 36
C) 51 D) 52

7) $\sum_{n=1}^{7} (-2)^{n-1}$

A) 39 B) 49
C) 43 D) $\frac{1}{3}$

**Find the sum.**

8) $3 - 6 + 12 - 24...$

A) $-1$ B) $\frac{1}{3}$
C) $-2$ D) No sum

9) $-2 - \frac{3}{2} - \frac{9}{8} - \frac{27}{32}...$

A) $-5$ B) 4
C) No sum D) $-8$

**Determine the number of terms:**

10) $a_1 = 1,\ r = 4,\ S_n = 341$

A) 8 B) 5
C) 7 D) 9

11) Angela deposits $10,000 in an account earning 2.4% interest, compounded monthly. Find the amount of interest she will earn in 5 years.

12) Angela's evil sister Delilah deposits $10,000 in an account earning 2.25% interest, compounded continuously. If she leaves her money in the account for 5 years, how much more or less will she earn than Angela?

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