

Math 200 - HW #2

January 31, 2011

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary. This assignment is due at February 2, 2011.

1. (1 point) Find a formula for the n th term of the following sequence.

$$9, 15, 21, 27, 33, 39, \dots$$

$$\begin{array}{cccccc} \vee & \vee & \vee & \vee & \vee & \\ 6 & 6 & 6 & 6 & 6 & \end{array}$$

$$\boxed{N^{\text{TH}} \text{ Term} = 6N + 3}$$

2. (1 point) Is 6799 a term in the sequence above? Explain.

IS THERE A COUNTING NUMBER N SUCH THAT $6N + 3 = 6799$?

$$6N + 3 = 6799 \Rightarrow 6N = 6796 \Rightarrow N = 1132 \frac{2}{3}$$

No, THIS N IS NOT A COUNTING NUMBER !

3. (1 point) In the sequence above, in which position is the term whose value is 5967? (Find the term number.)

$$6N + 3 = 5967 \Rightarrow 6N = 5964$$

$$\Rightarrow \boxed{N = 994}$$

4. (1 point) Compute the sum:

$$9 + 15 + 21 + 27 + \dots + 5955 + 5961 + 5967$$

$$\underline{5967 + 5961 + \dots + 15 + 9}$$

994 PAIRS OF 5976

$$\text{Sum is } \frac{994 (5976)}{2} = \boxed{2,970,072}$$