Math 200 - Quiz 3

February 1, 2012

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (1.5 points) Find the 1462nd term of the following arithmetic sequence.

$$9, 15, 21, 27, 33, \ldots$$

$$\vee \quad \vee \quad \vee \quad \vee$$

$$6 \quad 6 \quad 6 \quad 6$$

N^{TH} TERM $= 6N + 3$

1462^{ND} TERM $= 6(1462) + 3 =$ **8775**

2. (2 points) What kind of sequence is this? Find the next three terms.

$$5, 15, 45, 135, \ldots$$

MULTIPLY BY 3

THE SEQUENCE IS GEOMETRIC WITH RATIO 3.

NEXT TERMS ARE $135 \times 3 =$ **405**

$405 \times 3 =$ **1215**

$1215 \times 3 =$ **3645**

3. (1.5 points) Compute the sum: $2 + 4 + 6 + \cdots + 1180 + 1182 + 1184$

EVEN #'S. THERE ARE 592 TERMS.

$S = 2 + 4 + \cdots + 1184$

$S = 1184 + \cdots + 2$

$2S = 592\,(1186)$

$$S = \frac{592\,(1186)}{2} = \boxed{351,056}$$