

## HW: Inductive and Arithmetic

- 1.) Given the sequence 22, 24, 26, 28, 30, ...
- (A) Can you find a likely next term for the sequence?
- (B) Can you identify a general rule for this sequence  $a_n = ??$
- 2.) Given the sequence 5, 25, 125, 625, ...
- (A) Can you find a likely next term for the sequence?
- (B) Can you identify a general rule for this sequence  $a_n = ??$
- 3.) Given the sequence 28, 40, 54, 70, 88, ...  
(Hint: Look for the product of two numbers)
- (A) Can you find a likely next term for the sequence?
- (B) Can you identify a general rule for this sequence  $a_n = ??$
- 4.) Can you find the likely next term in the sequence: 20, 6, -3, -7, -6, ???
- 5.) Find a general rule ( $a_n = ?$ )  
for the arithmetic sequence:  
5, 9, 13, 17, 21, ...
- 6.) Find a general rule ( $a_n = ?$ )  
for the arithmetic sequence:  
182, 189, 196, 203, ....

- 7.) An arithmetic sequence has the properties that  $a_{51} = 80$  and  $a_{121} = 45$ . Find its general rule ( $a_n = ?$ ) and use this rule to find  $a_{2011}$ .
- 8.) An arithmetic sequence has the properties that  $a_{10} = 2008$  and  $a_{33} = 2100$ . Find its general rule ( $a_n = ?$ ) and use this rule to find  $a_{2011}$ .
- 9.) Can you find the likely 100<sup>th</sup> term in the sequence: 314, 307, 300, 293, .... ???