Math 141
Exam 2.2
March 18, 2016

name_____

9. For the sequence, find the nth term, a_n. Start with the given value of n.

$$\left\{\frac{1}{2}, -\frac{4}{6}, \frac{9}{24}, -\frac{16}{120}, \frac{25}{720}, -\frac{36}{5040}\cdots\right\}, \quad n=1$$

$a_n =$

10. Determine the convergence or divergence of the sequence with given n^{th} term.

a. $a_n = \dfrac{2n^2}{n^2+1}$

b. $a_n = \dfrac{2^n}{2^n+1}$

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$$\left\{\frac{1}{1}, -\frac{4}{1}, \frac{9}{2}, -\frac{16}{6}, \frac{25}{24}, -\frac{36}{120}\cdots\right\}, \quad n=0$$

$a_n =$

10. Determine the convergence or divergence of the sequence with given n^{th} term.

a. $a_n = \dfrac{n^2}{2n^2+1}$

b. $a_n = \dfrac{2^n}{2^{n+1}-1}$