

11.1 day 1 HW

Monday, March 10, 2014
11:35 AM

pg. 711 #8-10, 12, 15, 23, 26, 28, 38, 44, 45

8. $a_n = n + 3$

$$a_1 = 4 \quad a_2 = 5 \quad a_3 = 6 \quad a_4 = 7$$

9. $a_n = \frac{n-1}{n+1}$

$$a_1 = 0 \quad a_2 = \frac{1}{3} \quad a_3 = \frac{1}{2} \quad a_4 = \frac{3}{5}$$

10. $a_n = \left(1 + \frac{1}{n}\right)^n$

$$a_1 = 2 \quad a_2 = \left(\frac{3}{2}\right)^2 = \frac{9}{4} \quad a_3 = \left(\frac{4}{3}\right)^3 = \frac{64}{27} \quad a_4 = \left(\frac{5}{4}\right)^4 = \frac{625}{16}$$

12. $a_n = \frac{(-1)^{n+1}}{n^2}$

$$a_1 = 1 \quad a_2 = \frac{-1}{4} \quad a_3 = \frac{1}{9} \quad a_4 = \frac{-1}{16}$$

15. $a_{100} = \frac{100-1}{100+1} = \frac{99}{101}$

23. $a_n = (-1)^{n+1} n^2$

$$a_1 = 1 \quad a_2 = -4 \quad a_3 = 9 \quad a_4 = -16 \quad a_5 = 25$$

- ...

$$26. a_n = n[1 - (-1)^n]$$

$$a_1 = 1(1 - (-1)^1) = 1(2) = 2$$

$$a_2 = 2(1 - (-1)^2) = 0$$

$$a_3 = 3(1 - (-1)^3) = 3(2) = 6$$

$$a_4 = 4(1 - (-1)^4) = 0$$

$$a_5 = 5(1 - (-1)^5) = 5(2) = 10$$

$$28. a_n = (-3/2)^{n-1}$$

$$a_1 = (-3/2)^{1-1} = 1$$

$$a_2 = (-3/2)^{2-1} = -3/2$$

$$a_3 = (-3/2)^{3-1} = 9/4$$

$$a_4 = (-3/2)^{4-1} = -27/8$$

$$a_5 = (-3/2)^{5-1} = 81/16$$

$$38. 10, 11, 12, 13, \dots$$

1 2 3 4

$$a_n = n + 9$$

44. $\frac{1}{3}, \frac{2}{4}, \frac{3}{5}, \frac{4}{6}, \dots$

$$a_n = \frac{n}{n+2}$$

45. $-3, 9, -27, 81, \dots$

$$a_n = (-3)^n \text{ OR } (-1)^n 3^n$$