Student: _____ **Date:** _____ **Time:** _____	**Instructor:** Fred Khoury **Course:** Math 2312-1000 Precalculus (Fall - 2015) **Book:** Lial: College Algebra and Trigonometry, 4e	**Assignment:** Quiz Sec 4.1

1. Write out the first five terms of the sequence.

$a_n = n^2 - n$

- A. 0, 2, 6, 12, 20
- B. 2, 6, 12, 20, 30
- C. 1, 4, 9, 16, 25
- D. 0, 3, 8, 15, 24

2. Write out the first five terms of the sequence.

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

- A. $\dfrac{1}{2}, \dfrac{3}{4}, \dfrac{5}{6}, \dfrac{7}{8}, \dfrac{9}{10}$
- B. $\dfrac{1}{3}, \dfrac{1}{2}, \dfrac{5}{11}, \dfrac{7}{18}, \dfrac{1}{3}$
- C. $1, \dfrac{5}{8}, \dfrac{7}{15}, \dfrac{3}{8}, \dfrac{11}{35}$
- D. $\dfrac{1}{3}, \dfrac{3}{8}, \dfrac{1}{3}, \dfrac{7}{24}, \dfrac{9}{35}$

3. Write out the first five terms of the sequence.

$a_n = (-1)^{n-1}(7n-8)$

- A. $-1, -6, 13, -20, 27$
- B. $1, 6, -13, -20, -27$
- C. $-1, 6, 13, 20, 27$
- D. $-1, -22, 13, -20, 43$

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4. Find the first six terms of the sequence.

$a_1 = 9, a_n = 4 \cdot a_{n-1}$

A. 9, 36, 144, 576, 2,304, 9,216

B. 0, 4, 36, 40, 44, 48

C. 9, 36, 40, 44, 48, 52

D. 36, 144, 576, 2,304, 9,216, 36,864

5. Find the first six terms of the sequence.

$a_1 = 3, a_2 = 1$; for $n \geq 3, a_n = a_{n-1} - a_{n-2}$

A. $3, 1, -1, -3, -5, -7$

B. 3, 1, 4, 5, 6, 11

C. $3, 1, 2, -1, 3, -4$

D. $3, 1, -2, -3, -1, 2$

6. Evaluate the sum. Round to two decimal places, if necessary.

$$\sum_{k=3}^{6} (k^2 - 2)$$

A. 102

B. 78

C. 44

D. 86

7. Evaluate the sum. Round to two decimal places, if necessary.

$$\sum_{k=3}^{6} \frac{(k^2 - 3)}{2}$$

A. 37

B. 39

C. 74

D. 20

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8. Evaluate the sum. Round to two decimal places, if necessary.

$$\sum_{k=2}^{5} (-1)^{k+1}(k+2)^2$$

A. 15,620

B. 22

C. 126

D. -126

9. Evaluate the sum using the given information.

$x_1 = -1$, $x_2 = 4$, and $x_3 = 0$

$$\sum_{j=1}^{3}\left(\frac{x_j - 1}{2x_j + 3}\right)$$

A. $-\frac{86}{33}$

B. 0

C. $-\frac{68}{33}$

D. $-\frac{46}{33}$

10. Write the series using summation notation.

$$\frac{3}{1\cdot 2} + \frac{4}{2\cdot 3} + \frac{5}{3\cdot 4} + \frac{6}{4\cdot 5} + \frac{7}{5\cdot 6}$$

A. $\sum_{k=1}^{5} \frac{k-2}{k(k+1)}$

B. $\sum_{k=1}^{5} \frac{k}{k(k+1)}$

C. $\sum_{k=1}^{5} \frac{k+2}{k(k-1)}$

D. $\sum_{k=1}^{5} \frac{k+2}{k(k+1)}$

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11. Write the series using summation notation.

$$1+\frac{1}{2^8}+\frac{1}{3^8}+\frac{1}{4^8}+\frac{1}{5^8}$$

A. $\sum_{k=1}^{\infty} k^8$

B. $\sum_{k=2}^{6} \frac{1}{k^8}$

C. $\sum_{k=0}^{5} \frac{1}{k^8}$

D. $\sum_{k=1}^{5} \frac{1}{k^8}$