March 30, 2009

Calculus II : Quiz 7

Name

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1. **Monotone Bounded Theorem** states that Every bounded, monotonic sequence is convergent.

a) Give an example of a divergent sequence that is bounded but not monotonic.

b) Give an example of a divergent sequence that is monotonic but not bounded.

2. Match the followings with the proper name.

a) $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \ldots$.

b) 1+2+4+8+16+... .

c) $\frac{1}{1 \cdot 2} + \frac{1}{2 \cdot 3} + \frac{1}{3 \cdot 4} + \ldots$.

d) 1+(-1)+1+(-1)+1+(-1)+... .

e) $\frac{\ln(2)}{2}, \frac{\ln(3)}{3}, \frac{\ln(4)}{4}, \ldots$.

I) Convergent Sequence.

II) Geometric series.

III) Telescoping series.

IV) Harmonic series.

V) None of the above.