

# Reading Quiz #21

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Read Section 12.2(pages 749-756) and work out the following problems.

1. Determine whether the series is convergent or divergent. Evaluate its sum if it converges.

(a) 
$$\sum_{n=2}^{\infty} \frac{2}{n^2 - 1}$$

(b) 
$$\sum_{n=1}^{\infty} \left( \frac{3}{n(n+3)} + \frac{5}{4^n} \right)$$

2. We have seen that the harmonic series is a divergent series whose terms approach 0. Show that

$$\sum_{n=1}^{\infty} \ln \left( 1 + \frac{1}{n} \right)$$

is another series with this property.