

Name: _____

Show work needed to justify your answer.

Date: _____

HW: # 19a: Math IBSL - Standard 19 - Arithmetic and Geometric Series

5 points

- 1 Decide whether the infinite geometric series below are converging, and if so, find the sum:

a $0.25 + 0.375 + 0.5625 + \dots$

b $-\frac{3}{8} + \frac{9}{32} - \frac{27}{128} + \dots$

f $\frac{1}{\sqrt{2}} + \frac{2}{\sqrt{2}} + \frac{4}{\sqrt{2}} + \dots$

g $\frac{1}{\sqrt{2}} + \frac{1}{2\sqrt{2}} + \frac{1}{4\sqrt{2}} + \dots$

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- 4 A ball is dropped from a height of 12 ft. Each time it hits the ground, it rebounds to $\frac{3}{5}$ of its previous height. Find how far the ball will travel before coming to a stop.