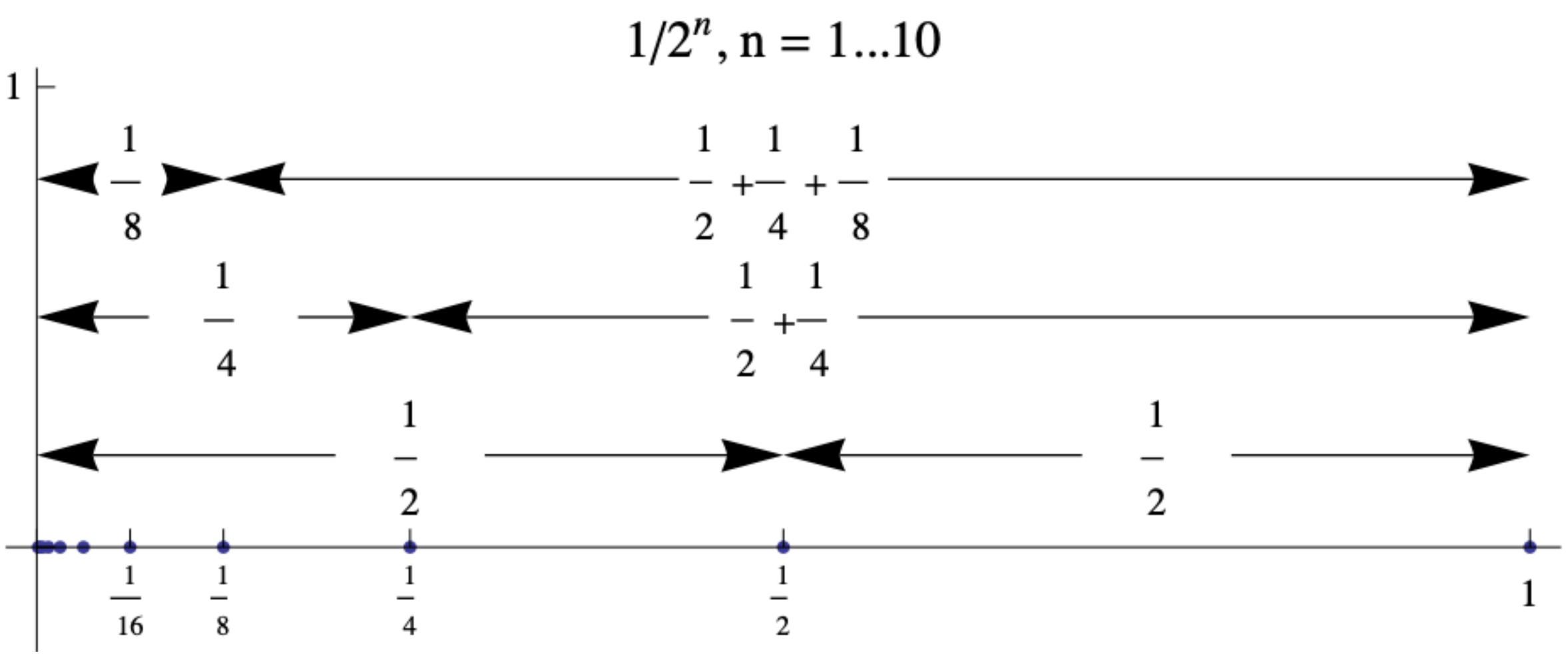
determine convergence/divergence using limit of S_n

example


$1/2^n$, n = 1...10
1
1/8
1/2 + 1/4 + 1/8
1/4
1/2 + 1/4
1/2
1/2
1/16
1/8
1/4
1/2
1

$$s_1 = \frac{1}{2}$$

$$s_2 = \frac{1}{2} + \frac{1}{4}$$

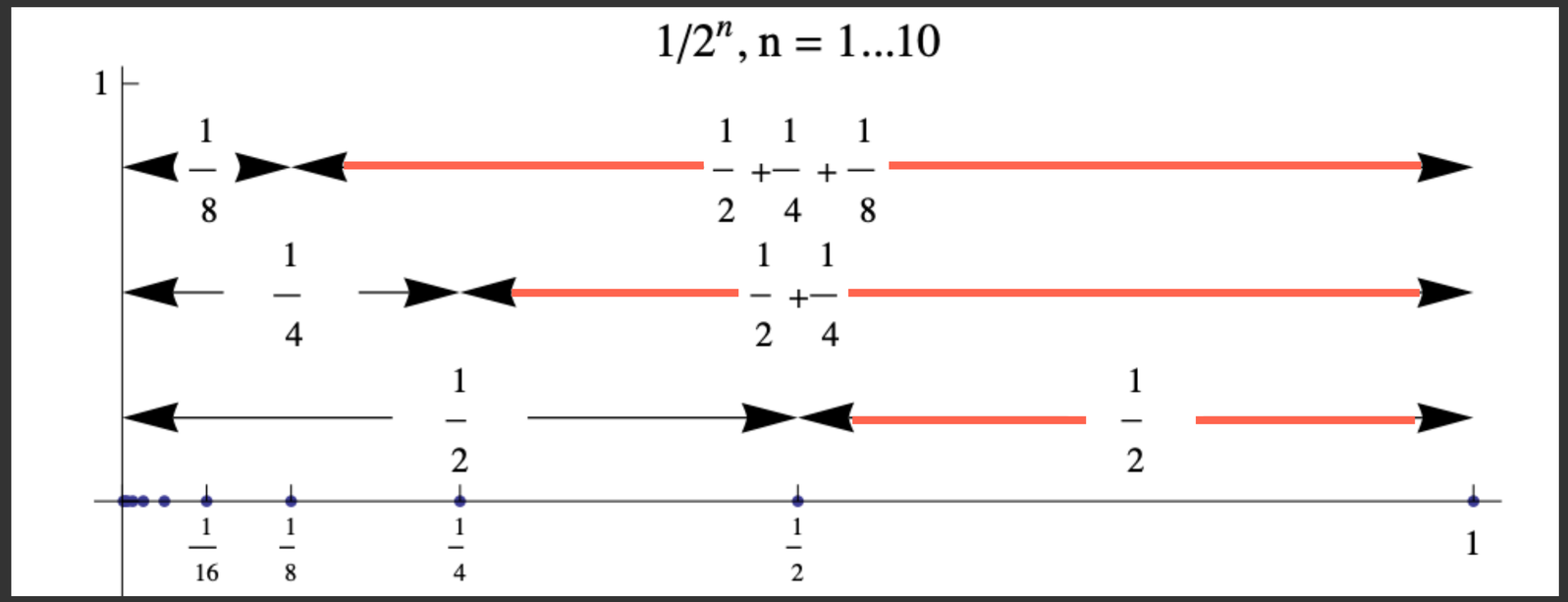
$$s_3 = \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$$

determine convergence/divergence using limit of s_n

example

Find the partial sums $s_1, s_2, s_3, \ldots, s_n$ of the series $\sum_{n=1}^{\infty} \frac{1}{2^n}$. Find the sum of the series.

Does the series converge?



$$s_1 = \frac{1}{2} \qquad s_2 = \frac{1}{2} + \frac{1}{4} \qquad s_3 = \frac{1}{2} + \frac{1}{4} + \frac{1}{8} \qquad \cdots$$

determine convergence/divergence using limit if s_n

example

Find the partial sums $s_1, s_2, s_3, \ldots, s_n$ of the series $\sum_{n=1}^{\infty} \frac{1}{2^n}$. Find the sum of the series.

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