1. Find the sum of the series, or state the series diverges.

(a) $\sum_{n=2}^{\infty} \frac{2}{5^n}$

(b) $\sum_{n=0}^{\infty} \frac{1 + (-2)^n}{2^{2n}}$
2. Find the values of $x$ for which the following series converges and find what it converges to.

$$
\sum_{n=0}^{\infty} \frac{3x^n}{2^n}
$$

3. How big is a Sierpiński Carpet? We discussed two different ways to answer this question yesterday, either is sufficient. Provide appropriate justification for your answer.

![Sierpiński carpet](image.png)

Figure 1: Sierpiński carpet