1. Calculate the **Effective Annual Rate (EAR)** for a 5-year investment with quarterly interest rates delivered to your account in the following manner- Q1-Q4: 1.2%; Q5-Q8: 1.5%; Q9-Q20: 1.8%. Assume all rates are compounded.

2. Determine the domain and the range of the following function:

$$f(x) = \sqrt{16 - x^2}$$

3. Determine the domain and the range of the following function:

$$f(x) = (x - 2)^2 + 6$$

4. Determine the domain and the range of the following function:

$$f(x) = \frac{2}{2 - x}$$

5. The domain of the function is $[0, \infty)$. Calculate the range.

$$f(x) = 6 - 2x$$