1) Find the domain of \( \frac{x^2-4}{x^3+8} \) and \( \frac{x-2}{x^2-x+4} \).

2) Draw the functions \( f(x) = |x| \cdot \cos x \), \( g(x) = \text{sign}(x) \cdot \sin x \)
(Sign denotes the sign function). Can you guess their range?

3) Omar estimates that a bacteria grows like \( a \cdot e^{bt} \) (in ml), where \( t \) denotes time (seconds). At times 1 and 2 seconds there is 1.6 ml and 6.4 ml, respectively. Which growth will Omar predict for \( t = 5 \)?

4) Draw \( h(x) = (x+2)^2 \). Find the intersection with \( y = 25 \).

5) Find \( m \) such that the slope of \( L(x) = 8x - m \) at \( x = -2 \) is equal to \( f(-2) \).

6) Find \( n \) such that the amplitude and period of \( M(x) = 4 \cos(nx) + 3 \) are equal.

7) Draw \( 3^x - 9 \), \( \Gamma^{-x} \), indicating asymptotes and intercepts.

8) Draw the inverses of the functions from exercise 7.