1. Let \( f \) be a function of \( x \) such that \( f(x) = \frac{x^2 - 1}{x + 4} \). What is \( f(-2) \)?

**Solution:** \( f(-2) = \frac{(-2)^2 - 1}{(-2) + 4} = \frac{4 - 1}{2} = \frac{3}{2} \).

2. If \( f(x) = x^2 - 5 \), what is \( f(x + 2) \)? Simplify your answer.

**Solution:** \( f(x + 2) = (x + 2)^2 - 5 = x^2 + 4x + 4 - 5 = x^2 + 4x - 1 \).

3. Let \( A = \{1, 2, 3, 4\} \) and \( B = \{1, 3, 5, 7, 9\} \). Draw an arrow diagram that gives a nonfunction from \( A \) to \( B \).

**Solution:** Here is one possible solution; there are many.

\[
\begin{array}{cccc}
A & B \\
1 & 1 \\
2 & 3 \\
3 & 5 \\
4 & 7 & \downarrow 9
\end{array}
\]

4. Find an equation of the line through the points \((2, -4)\) and \((6, 1)\).

**Solution:** The slope of this line is \( \frac{1 - (-4)}{6 - 2} = \frac{5}{4} \). An equation is therefore \( y - 1 = \frac{5}{4}(x - 6) \).