1. When does a function approach a horizontal asymptote?

2. Describe how to sketch the graph of $y = \frac{k}{x-b} + c$ when you know the values of $k$, $b$, and $c$.

3. Write two rational functions whose graphs are identical except one has been shifted 3 units to the right of the other.
4. Write two rational functions whose graphs are identical except one has been shifted 5 units to the left of the other.

5. Write an equation in the form \( y = \frac{k}{(x-b)} + c \) that has a vertical asymptote to the left of \( x = 1 \) and a horizontal asymptote above \( y = 1 \).

6. Write a rational function that has vertical asymptotes at \( x = -1 \) and \( x = 3 \).
Answers may vary. Sample: The dependent variable of a function approaches the horizontal asymptote when the independent variable is very large or very small.

Answers may vary. Sample: Draw the asymptotes $x = a$ and $y = c$. Then find a few data points for the equation near the asymptotes.

Answers may vary. Sample: $y = \frac{1}{x}$ and $y = \frac{1}{x-3}$

Answers may vary. Sample: $y = \frac{1}{x}$ and $y = \frac{1}{x+5}$

Answers may vary. Sample: $y = \frac{1}{(x+2)} + 3$

Answers may vary. Sample: $y = \frac{4}{x^2 - 2x - 3}$