Pop test Rational Functions 11.6

I. In the graph: \( f(x) = \frac{(x - 1)(2x + 1)}{(3x + 1)(x - 2)} \)

1. True False  There are vertical asymptotes at \( x = \frac{-1}{3}, x = 2, x = 1, x = -\frac{1}{2} \).
2. True False  There is a slanted asymptote at \( y = \frac{2}{3} \).
3. True False  There are no horizontal asymptotes.
4. True False  There is a horizontal asymptote at \( y = 0 \).
5. True False  There are vertical asymptotes at \( x = \frac{-1}{3}, x = 2 \).
6. True False  There are x intercepts at \( x = \frac{-1}{3}, x = 2 \).
7. True False  There is a vertical asymptote at \( x = 1 \).
8. True False  There are vertical asymptotes at \( x = 2 \), and \( x = 1 \).
9. True False  There is a slanted asymptote at \( y = x - 1 \).
10. True False  There is a horizontal asymptote at \( y = \frac{1}{2} \).

II. In the graph: \( f(x) = \frac{(x - 2)(x + 3)}{(x - 2)(x - 1)} \)

1. True False  There is a slanted asymptote at \( y = 2x \).
2. True False  There are vertical asymptotes at \( x = 2, x = -3, x = 1 \).
3. True False  There is a vertical asymptote at \( x = 1 \).
4. True False  There are vertical asymptotes at \( x = 2 \), and \( x = 1 \).
5. True False  There are no horizontal asymptotes.
6. True False  There is a horizontal asymptote at \( y = 1 \).
7. True False  There is a horizontal asymptote at \( y = 0 \).
8. True False  There is a hole in the graph at \( (2, 5) \).
9. True False  There is a horizontal asymptote at \( y = 0 \).
10. True False  There is a horizontal asymptote at \( y = 0 \).
11. True False  There is a horizontal asymptote at \( y = 0 \).
12. True False  There is a horizontal asymptote at \( y = 0 \).