Name: _____ **Show work needed to justify your answer.** Date: _____

HW: # 16a: Math IBSL - Standard 16 -Rational Functions [f(x) = (ax+b)/(cx+d)] 5 points

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7 Find the inverse of each function.

a $f(x) = \dfrac{x+3}{x-2}$

c $f(x) = \dfrac{1+7x}{9-x}$

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10 Let $f(x) = m + \dfrac{6}{x-n}$. The line $x = 5$ is an asymptote to the graph of f.

a Write down the value of n.

The graph passes through the point $(7, 7)$.

b Find the value of m.

c Write down the equation of the horizontal asymptote.

Name: _____ **Show work needed to justify your answer.** Date: _____

HW: # 16a: Math IBSL - Standard 16 -Rational Functions [f(x) = (ax+b)/(cx+d)] 5 points

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11 Consider the function $y = \frac{4}{x-2} + 3$.

a Write down the equation of the horizontal asymptote.

b Find the vertical asymptote.

c Find the coordinates of the axial intercepts.

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13 $f(x) = \frac{x+2}{x+3}$ and $g(x) = \frac{1}{x}$:

a Find $(g \circ f)(x)$.

b Plot $(g \circ f)(x)$ and $f(x)$ on your GDC, and use this to solve $f(x) = (g \circ f)(x)$.