

Homework #21

Answers

From Houghton-Mifflin Precalculus

3rd Edition

p170:

$$19) \quad 4 \left| \begin{array}{cccc} 3 & -10 & 12 & -22 \\ & 12 & 8 & 80 \\ \hline 3 & 2 & 20 & | 58 \\ \hline 3x^2 + 2x + 20 + \frac{58}{x-4} \end{array} \right.$$

$$23) \quad 2 \left| \begin{array}{cccc} 9 & -18 & -16 & 32 \\ & 18 & 0 & -32 \\ \hline 9 & 0 & -16 & | 0 \\ \hline 9x^2 - 16 \end{array} \right.$$

$$22) \quad -6 \left| \begin{array}{cccc} 2 & 14 & -20 & 7 \\ & -12 & -12 & 192 \\ \hline 2 & 2 & -32 & | 199 \\ \hline 2x^2 + 2x - 32 + \frac{199}{x+6} \end{array} \right.$$

$$24) \quad -2 \left| \begin{array}{cccc} 5 & 0 & 6 & 8 \\ & -10 & 20 & -52 \\ \hline 5 & -10 & 26 & | -44 \\ \hline 5x^2 - 10x + 26 + \frac{-44}{x+2} \end{array} \right.$$

$$25) \quad -8 \left| \begin{array}{cccc} 1 & 0 & 0 & 512 \\ & -8 & 64 & -512 \\ \hline 1 & -8 & 64 & | 0 \\ \hline x^2 - 8x + 64 \end{array} \right.$$

$$27) \quad -\frac{1}{2} \left| \begin{array}{cccc} 4 & 16 & -23 & -15 \\ & -2 & -7 & 15 \\ \hline 4 & 14 & -30 & | 0 \\ \hline 4x^2 + 14x - 30 \end{array} \right.$$

p86:

$$130) \quad y = \frac{7x + 3}{8}$$

$$\text{inv: } x = \frac{7y + 3}{8}$$

$$8x = 7y + 3$$

$$8x - 3 = 7y$$

$$f^{-1}(x) = \frac{8x - 3}{7}$$

$$131) \quad y = 4x^3 - 3$$

$$\text{inv: } x = 4y^3 - 3$$

$$x + 3 = 4y^3$$

$$\frac{x + 3}{4} = y^3$$

$$4$$

$$f^{-1}(x) = \sqrt[3]{\frac{x + 3}{4}}$$