DCA 4 (A.REI.A – rational) Review

Perform the indicated operation. List any restrictions for the variable(s) and simplify the answers when possible.

1)
$$\frac{v-1}{v^2-3v-18}+\frac{5}{4}$$

2)
$$\frac{n^2+8n-20}{n+2}\cdot\frac{n+2}{n-2}$$

Restrictions: _____

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3) Solve.
$$\frac{2}{m^2-3m-4}+\frac{1}{3m-12}=\frac{2}{3m+3}$$

4) A man rows downstream for 30 miles then turns around and returns to his original location, the total trip took 8 hours. If the current flows at 2 miles per hour, how fast would the man row in still water?

Exemplary

    5) State the vertical asymptote(s), horizontal asymptote(s), and x-intercept(s) of each of the following rational functions.

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

    vertical asymptote(s):

    horizontal asymptote(s):

    x-intercept(s):

    b) $g(x) = \dfrac{x^2 + 3x - 40}{x^2 + 10x + 24}$

    vertical asymptote(s):

    horizontal asymptote(s):

    x-intercept(s):