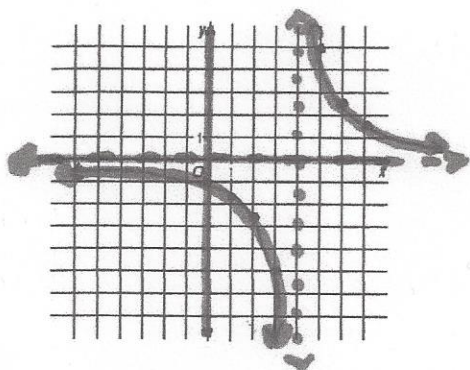


You must show all of your work to receive full credit.

1) Locate the asymptotes and graph the rational function.



$$f(x) = \frac{5}{x-4}$$

$$x-4=0$$

$$x=4 \text{ VA}$$

x	y
1	$-1\frac{2}{3}$
2	$-2\frac{1}{2}$
3	-5
4	
5	5
6	$2\frac{1}{2}$
7	$1\frac{2}{3}$

Perform the indicated operation and give the answer in completely reduced form.

$$2) \frac{m^2-1}{4m} \cdot \frac{9m}{m+1} = \frac{9(m-1)}{4}$$

$$3) \frac{x-2}{3x-2y} \cdot \frac{9x^2-4y^2}{2x^2-x-6} = \frac{3x+2y}{2x+3}$$

$$4) \frac{s^2+s}{s^2-7s+6} \div \frac{s+1}{s-1} = \frac{s}{s-6}$$

$$5) \frac{3x^2+17x+20}{3x^2-4x-15} \div \frac{x^2+5x+4}{4x^2-8x-12} = 4$$

$$6) \frac{\frac{a^2+9a+20}{a^2-9a+20}}{\frac{a+4}{a-4}} = \frac{a+5}{a-5}$$

$$7) \frac{\frac{x^2-12x+36}{12x}}{x-6} = \frac{x-6}{6}$$

$$8) \frac{9}{2x^2y^6} + \frac{1}{3x^3y^4} = \frac{27x + 2y^2}{6x^3y^6}$$

$$9) \frac{x}{x-1} + \frac{2x+5}{x^2+2x-3} = \frac{x^2+5x+5}{(x+3)(x-1)}$$

$$10) \frac{x-1}{x^2-x-2} + \frac{x-4}{x^2-1} = \frac{2x^2-8x+9}{(x-2)(x+1)(x-1)}$$

$$11) \frac{3t}{t^2-36} - \frac{4}{t^2+8t+12} = \frac{3t^2+2t+24}{(t+6)(t-6)(t+2)}$$

$$12) \frac{x-1}{x^2-x-6} - \frac{x-1}{x^2-4} = \frac{x-1}{(x-3)(x+2)(x-2)}$$

\* watch signs \*

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Solve each equation.

$$13) \frac{p+3}{6p} = \frac{p+6}{6p-4} \quad p = \frac{-6}{11}$$

$$14) \frac{x}{x+2} - \frac{x}{x-2} = \frac{x^2+4}{x^2-4} \quad x = \text{no solution} \quad \emptyset$$