RATIONALS – 2. Solve & Apply

Name:

Date:

Please remember to show/communicate all your work. You DO NOT need to answer every question, two correct answers at any level will demonstrate a student's level of attainment.

LEGEND						
✓	M	✘	S	N	G	H
correct	mostly correct	incorrect	silly mistake	did not know how to start or skipped	with group	got help

	Mild (🌶🌶)		Medium (🌶🌶🌶)		Spicey (🌶🌶🌶🌶)
Questions	#1	#2	#3	#4	#5
Results					

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1. Solve for x:

$$\frac{3}{x+2} = \frac{1}{7-x}$$

2. Solve for x:

$$\frac{3-x}{x-5} - \frac{2x^2}{x^2-3x-10} = \frac{2}{x+2}$$

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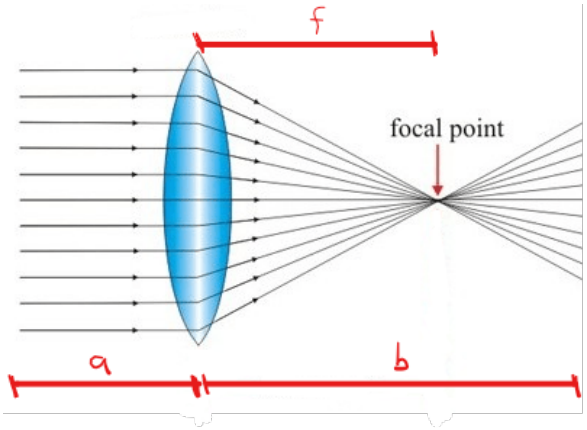
3. The distance between Vancouver & Regina is 1730 km. If the flight from Vancouver to Regina on a commercial airplane takes 140 minutes longer than a jet airplane, and the jet airplane travels 3 times the speed of a commercial airplane. How long does this route take for the commercial plane (t_C)? (note speed = distance/time)

4. The formula that describes the relationship between the location of an object 'a' and the location of object 'b' is $\frac{1}{a}+\frac{1}{b}=\frac{1}{f}$. If $a = x + 8$ & $b = (x + 8)(x - 1)$ determine their values if the focal length of a lens is $f = 5$. (hint: check all values and note that a & b are lengths)



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5. An angler wants to know how long it will take to get 10km upstream to a favourite fishing location. The speed of the current (S_c) is 3 km/hr and it takes the boat twice as long to go 3km upstream as is does to go 4km downstream. How long will it take to get to the fishing spot?