**6.4: Rational Equations**



**Objectives:**

* Determine the solution to a rational equation algebraically

**Solving Rational Equations!**

1. Factor each denominator
2. Identify the non-permissible values
3. Multiply both sides of the equation by the lowest common denominator
4. Solve by isolating the variable on one side of the equation
5. Check your answers

Example 1) Solve the following equation. What values are non-permissible?







Example 2) Solve the following equation. What values are non-permissible?





Example 3) Two friends share a paper route. Sheena can deliver the papers in 40 min. Jeff can cover the same route in 50 min. How long, to the nearest minute, does the paper route take if they work together?



Example 4) A group of friends go on a 3-h bike ride together. They ride 15 km with the wind at their backs, and then 15 km straight into the wind. The wind adds or subtracts 3 km/h from their speed. What is the average speed of the group of friends with no wind?

