Handout 3: Prove and Improve

For problems 1-5, $A = B$, $C = D$, $E = F$, $G = H$, and $H \neq 0$.

1. What allows us to say that $AC = BC$?

2. What allows us to say that $AD = BC$?

3. What allows us to say that $AD + E = BC + F$?

4. What allows us to say that $\frac{AD+E}{G} = \frac{BC+F}{G}$

5. What allows us to say that $\frac{AD+E}{G} = \frac{BC+F}{H}$?

For questions 6- 10, it is given that $3(x-2)^2 = 12$ and $\frac{1}{2}x^2y^2 = 72$.

6. What must we do to $3(x-2)^2 = 12$ to get $(x-2)^2 = 4$?

7. What will we get when we solve $(x-2)^2 = 4$ for x?

8. What must we do to $\frac{1}{2}x^2y^2 = 72$ in order to get $x^2y^2 = 144$?

9. If we substitute our answer for x into the equation, what will we get?

10. Simplifying the remaining equation, what will be our value of y?