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?
- 6. What must we do to $3(x-2)^2 = 12$ to get $(x-2)^2 = 4$?
- 2. What allows us to say that AD = BC?
- 7. What will we get when we solve $(x-2)^2 = 4$ for x?
- 3. What allows us to say that AD + E = BC + F?
- 8. What must we do to $\frac{1}{2}x^2y^2 = 72$ in order to get $x^2y^2 = 144$?
- 4. What allows us to say that $\frac{AD+E}{G}=$
- 9. If we substitute our answer for x into the equation, what will we get?
- 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 $\frac{1}{2}x^2y^2 = 72$.

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

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