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## Tutorials for Decision Procedures Exercise sheet 5

### Exercise 1: Quantifier Elimination for $T_{\mathbb{Q}}$

Apply quantifier elimination to the following  $T_{\mathbb{Q}}$ -formulae:

- (a)  $\exists y. (x = 2y \wedge y < x)$
- (b)  $\forall y. (25 < x + 2y \vee x + 2y < 25)$
- (c)  $\forall x. \exists y. (y > x \wedge -y < x)$
- (d)  $\forall x. (x > 0 \iff \exists y. (x > y \wedge -x < y))$