Name _____ Date _____ Period _____
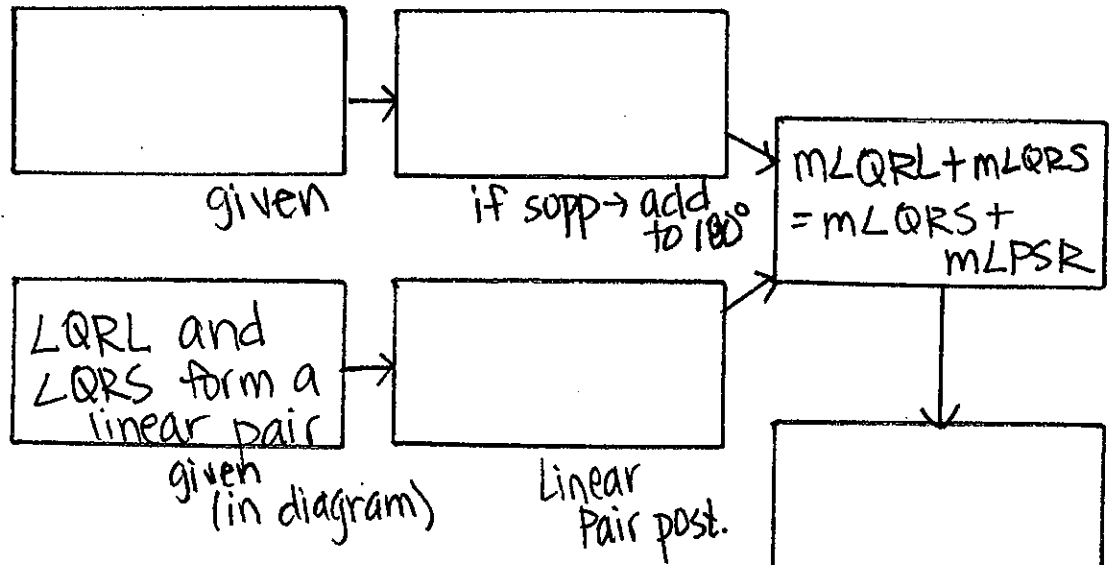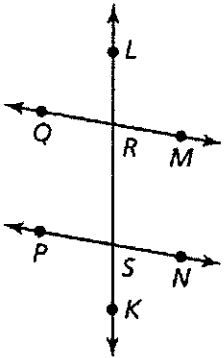
r #1 and 2, complete the flow chart proofs. Make sure that every statement is paired with a reason.
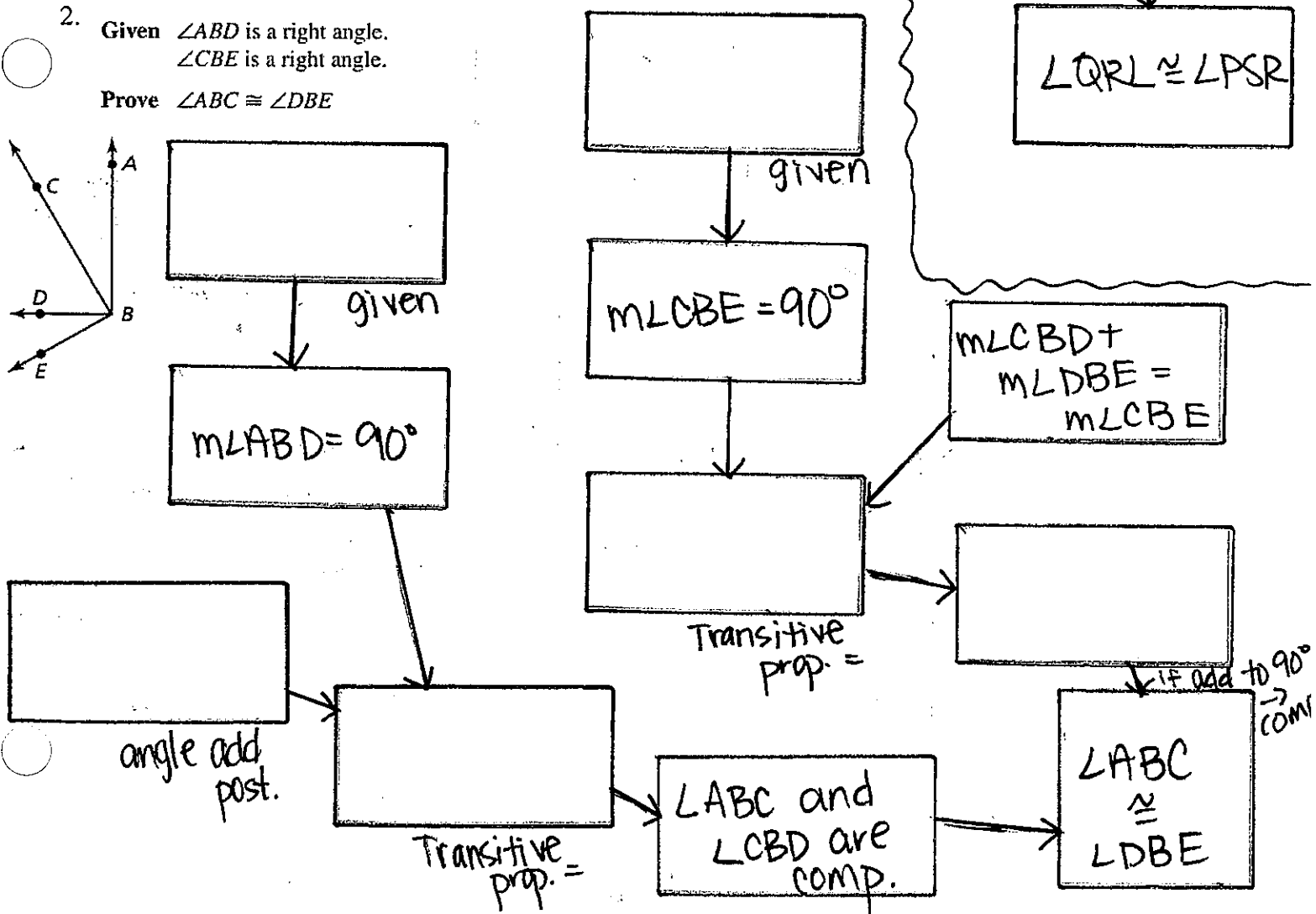
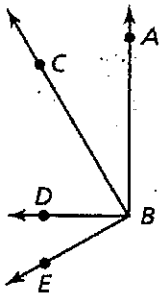1. **Given** $\angle QRS$ and $\angle PSR$ are supplementary.
   Prove $\angle QRL \cong \angle PSR$

given

if supp → add to 180°

$m\angle QRL + m\angle QRS = m\angle QRS + m\angle PSR$

∠QRL and ∠QRS form a linear pair
given (in diagram)

Linear Pair post.

subtraction prop. =

$\angle QRL \cong \angle PSR$

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2. **Given** $\angle ABD$ is a right angle.
   $\angle CBE$ is a right angle.
   Prove $\angle ABC \cong \angle DBE$

given

$m\angle ABD = 90°$

given

$m\angle CBE = 90°$

$m\angle CBD + m\angle DBE = m\angle CBE$

Transitive prop. =

angle add. post.

Transitive prop. =

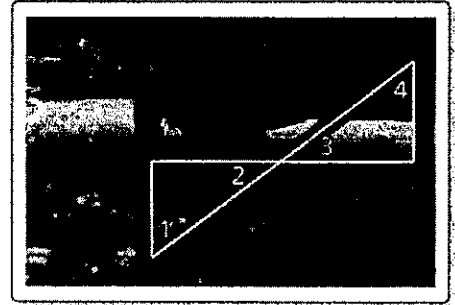∠ABC and ∠CBD are comp.
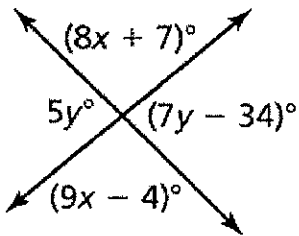
if add to 90° → comp

$\angle ABC \cong \angle DBE$

3. Write the ENTIRE flow chart yourself!

Given $\angle 1$ and $\angle 3$ are complementary.
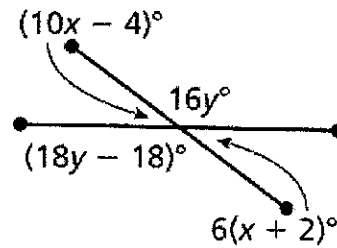$\angle 2$ and $\angle 4$ are complementary.

Prove $\angle 1 \cong \angle 4$

4. Find the values of x and y.

$(8x + 7)°$

$5y°$ $(7y - 34)°$

$(9x - 4)°$

5. Find the values of x and y.

$(10x - 4)°$

$16y°$

$(18y - 18)°$

$6(x + 2)°$

6. Find the values of x and y. (HINT: you will need to solve a *system of equations* to find the values of each!)

$10y°$

$(3y + 11)°$ $(4x - 22)°$

$(7x + 4)°$