1. Complete this proof of Theorem 2-5

Given: Angles G and H are supplementary and $\angle G \cong \angle H$

Prove: Angles G and H are both right angles.

Steps	Reasons
1. Angles G and H are supplementary $\angle G \cong \angle H$	1. Given
2. $\angle G + \angle H = 180°$	2. Def of Suppl.
3. $\angle G + \angle G = 180°$	3. Substitution
4. $2 \cdot \angle G = 180°$	4. Simplify or Combine like terms
5. $\angle G = 90°$	5. Div Prop =
6. $\angle H = 90°$	6. Subst.

Write and solve an equation to find the measure of each pair of angles described:

1. $\angle Q$ is fifteen more than twice its complement

$\angle Q = 2x+15$

$25° \& 65°$ $\angle Q + x = 90$

$2x+15+x = 90$

$x = 25$

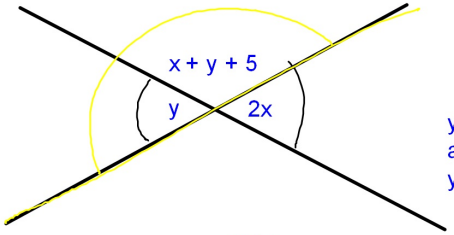
2. $\angle A$ is three times as large as its supplement.

$\angle A = 3x$ $\angle A + x = 180$

$3x + x = 180 \rightarrow x = 45$

$45° \& 135°$

Find the value of each variable.



Write two equations such as:

y = 2x (vert angles =)
and
y+x+y+5=180 (supple angles)

Substitute to get:
2x+x+2x+5=180

Solve for x: x=35
then find y: y=2x=2(35)=70

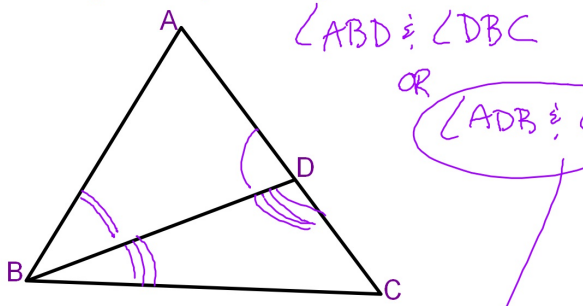
$y = 2x$

$y + x + y + 5 = 180$

$2y + x + 5 = 180$

$2(2x) + x + 5 = 180$

Name a pair of adjacent angles.



$\angle ABD \& \angle DBC$

OR

$\angle ADB \& \angle CDB$

Name a pair of supplementary angles.