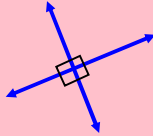


### Ch 3.2 Theorems about Perpendicular Lines

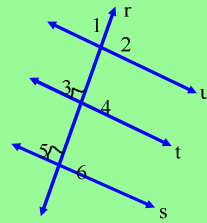
Th 3.1: All right angles are congruent.

Th 3.2: If 2 lines are perpendicular, then they intersect to form 4 right angles.



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Ex1) In the diagram,  $r \perp s$  and  $r \perp t$ . Then determine whether enough info is given to conclude that the statement is true. Explain.



a)  $\angle 3 \cong \angle 5$

b)  $\angle 4 \cong \angle 5$

c)  $\angle 2 \cong \angle 3$

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1 1.  $\angle 6 < 10$

Yes

No

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2 2.  $\angle 7 < 10$

Yes

No

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3 3.

Yes

No

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4 4.

Yes  
No

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5 5.

Yes  
No

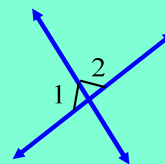
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6 6.

Yes  
No

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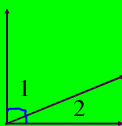
Th 3.3: If 2 lines intersect to form adjacent congruent angles, then the 2 lines are perpendicular.



If  $\angle 1 \cong \angle 2$ , then the 2 lines are  $\perp$ .

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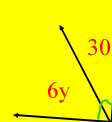
Th 3.4: If 2 sides of adjacent acute angles are perpendicular, then the angles are complementary.



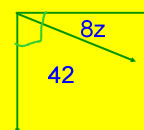
$$m\angle 1 + m\angle 2 = 90$$

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Ex 2a) Find y.



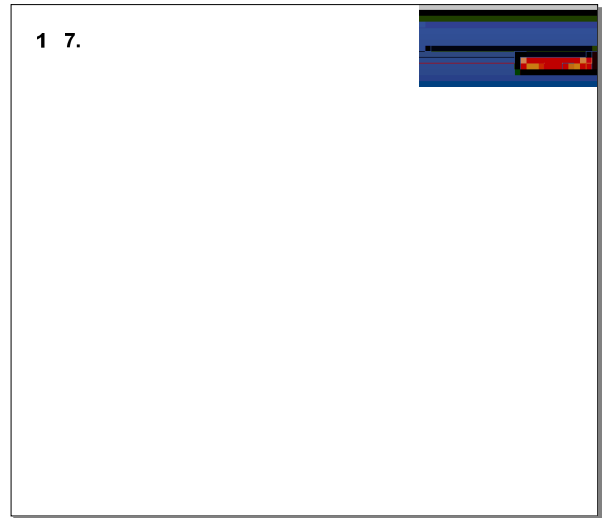
Ex 2b) find z.



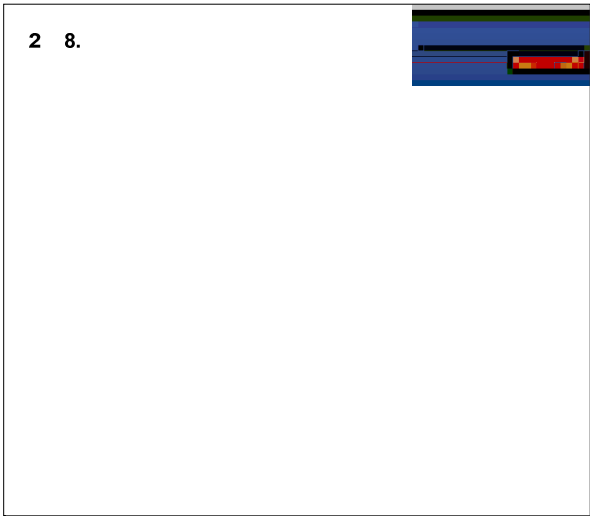
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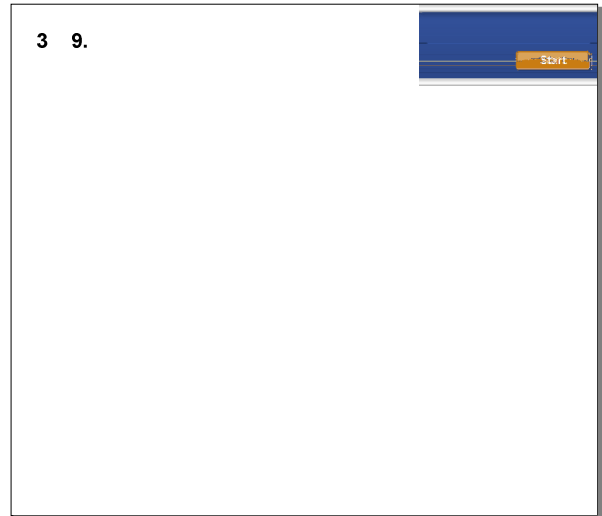
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