1. (12 pts) Given the figure shown below with $AB \parallel CD$ and $AD \parallel BC$. Determine the measures of $\angle 1$ through $\angle 12$.

$m\angle 1 = ___$  
$m\angle 7 = ___$

$m\angle 2 = ___$  
$m\angle 8 = ___$

$m\angle 3 = ___$  
$m\angle 9 = ___$

$m\angle 4 = ___$  
$m\angle 10 = ___$

$m\angle 5 = ___$  
$m\angle 11 = ___$

$m\angle 6 = ___$  
$m\angle 12 = ___$

2. (6 pts) Draw a line parallel to $BC$ passing through Point A using a compass. Show all arcs and intersections necessary to complete the task.
3. (9 pts) Construct a rhombus with diagonals $a$ and $b$.

\[ \quad \quad a \quad \quad b \quad \quad \]

4. (12 pts) Determine if each of the following is TRUE or FALSE. If TRUE, explain why.

A. $\angle 4 + \angle 9 + \angle 13 = 180^\circ$

B. $\angle 5 = \angle 8 + \angle 10$

C. $\angle 4 = \angle 1 + \angle 14$

D. $\angle 2 + \angle 3 + \angle + \angle 11 + \angle 12 + \angle 15 = 360^\circ$. 
5. (9 pts) In the following figure, \( \angle GBC = 36° \). Find the measures of the following angles:

A. \( m\angle GFB = \) ___________

B. \( m\angle BCE = \) ___________

C. \( m\angle CED = \) ___________

6. (2 pts each) Do the following lengths of sides form a right triangle? If not, state the reason why.

A. 6, 8, 10

B. 9, 7, 17

C. \( x, 2x, 3x \)
7. (16 pts) Complete the following proof, stating the appropriate reasons justifying each statement.
(NOTE: Fill in all the blanks in the *Statements* and *Reasons*. Not all the lines need to be used. Figure not drawn to scale.)

Given: \(AB \perp BC\), \(DC \perp BC\), and \(AB \cong CD\).
Prove: \(\angle BAC \cong \angle CBD\)

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A. (5 pts) A surveyor lays out a traverse with the three vertices as shown. Does the traverse “close” (Does it form a triangle)?

B. (5 pts) Find the area of the rhombus shown if $WY = 30$ cm.