

Name: _____

Date: _____

CC Geometry - Unit 1

Part I: Vocabulary

List all the important vocabulary/key terms from unit 1.



Supplementary angles

Complementary angles

Linear pairs

Vertical angles

Angles at a point

Alt. ext. angles

Alt. int. angles

Same side int. angles

parallel lines

Consecutive adj. angles on a line

Perpendicular lines

Transversal

Angle

Degree

Variable

Auxiliary Line

Angle Sum Postulate

Ext. angle theorem

Isosceles triangle

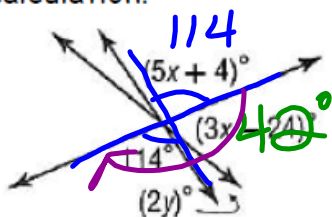
Part II: Unit Topics

List the aims from this unit 1.

- 1.1 Mixed Angles / Parallel Lines cut by a transversal
- 1.2 Unknown Angles
- 1.3 Auxiliary Lines
- 1.4 Ext. Angles Theorem / Angles of Triangles

Part III: Examples

1) Find the value of each variable. State the geometric reasons for each calculation.



① vertical \angle 's

$$\begin{array}{r} 5x + 4 = 114 \\ -4 \quad -4 \\ \hline 5x = 110 \\ \boxed{x = 22} \end{array}$$

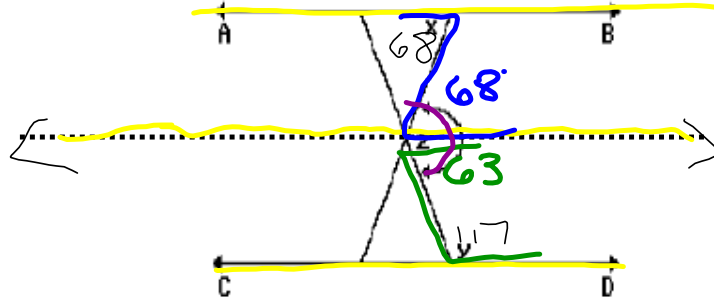
$$\begin{array}{l} \textcircled{2} 3x - 24 \\ 3(22) - 24 \\ 42 \end{array}$$

③ consecutive adj \angle 's
on line sum to 180

$$114 + 2y + 42 = 180$$

$$\boxed{y = 12}$$

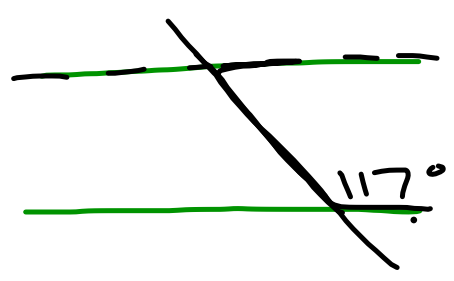
2) In the diagram below, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle x = 68$, and $m\angle y = 117$. What is $m\angle z$?



- A) 117
- B) 131**
- C) 49
- D) 112

- ① Auxiliary Line
- ② Alt. int. \angle 's are \cong
- ③ Same side int. \angle 's are supp.
 $180 - 117 = 63$
- ④ Angle sum Postulate
 $Z = 68 + 63$
 $Z = 131$

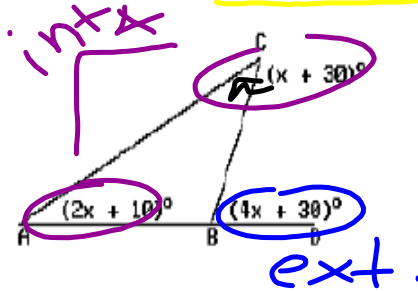
$Z = 131^\circ$ Angle sum post.



3)

In the accompanying diagram of $\triangle ABC$, side \overline{AB} is extended to D. If $m\angle ACB = (x + 30)^\circ$, $m\angle CAB = (2x + 10)^\circ$, and $m\angle CBD = (4x + 30)^\circ$, what is the value of x ?

Ext $\angle =$
Sum of the
opp. int.
 \angle 's



$$4x + 30 = 2x + 10 + x + 30$$

$$4x + 30 = 3x + 40$$

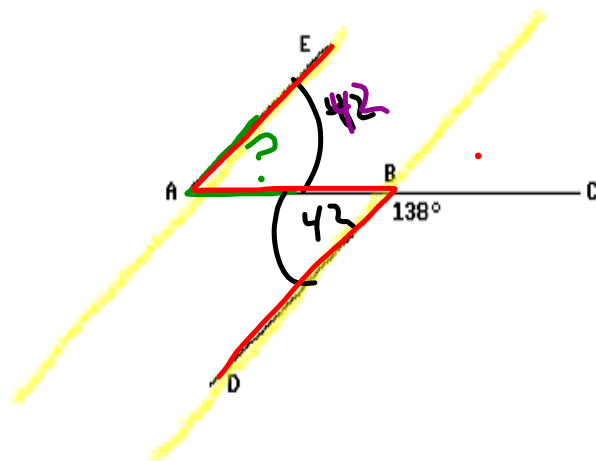
$$\begin{array}{r} -3x \quad -3x \\ \hline \end{array}$$

$$x + 30 = 40$$

$$\begin{array}{r} -30 - 30 \\ \hline \end{array}$$

$$x = 10$$

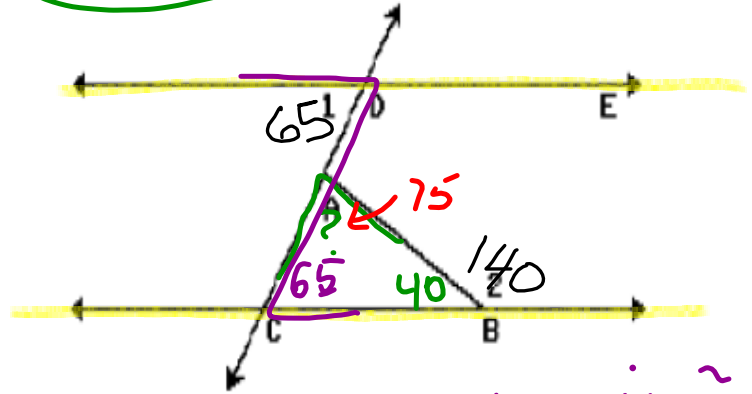
4) In the accompanying diagram, \overline{ABC} , $m\angle DBC = 138^\circ$, and $\overline{AE} \parallel \overline{DB}$. Find $m\angle EAB$.



① Linear pair are sup

② alt int \angle s =

5) In the accompanying diagram, $\overleftrightarrow{DE} \parallel \overleftrightarrow{CB}$ and \overleftrightarrow{CD} is a transversal. If $m\angle 1 = 65$ and $m\angle 2 = 140$, find $m\angle CAB$.



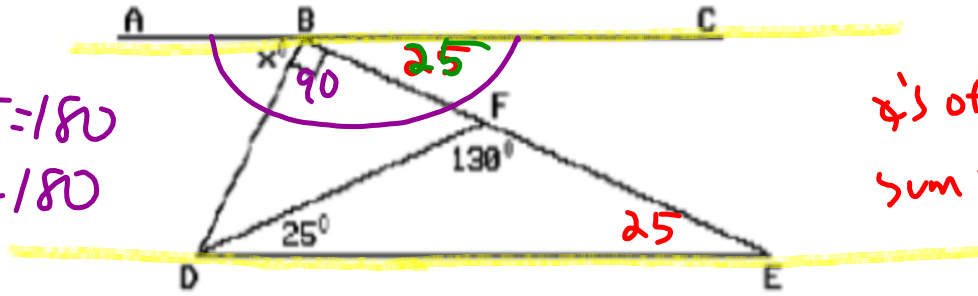
$$\begin{array}{r} 65 \\ + 40 \\ \hline 105 \end{array} \quad \begin{array}{r} 180 \\ - 105 \\ \hline 75 \end{array}$$

$\angle CAB = 75$

- ① alt int \angle 's \cong
- ② linear pairs are supp
- ③ \angle 's of a \triangle sum to 180

6)

In the accompanying diagram, $\overline{ABC} \parallel \overline{DE}$, $m\angle FDE = 25$, $m\angle DFE = 130$, and $m\angle ABD = x$. What is the value of x ?



$$x + 90 + 25 = 180$$

$$x + 115 = 180$$

$$x = 65$$

consec adj
 \angle 's on a line
 sum to 180

\angle 's of a \triangle
 sum to 180

$$\begin{array}{r} 130 \\ + 25 \\ \hline 155 \end{array}$$

$$\begin{array}{r} 180 \\ - 155 \\ \hline 25 \end{array}$$

alt int \angle 's \cong

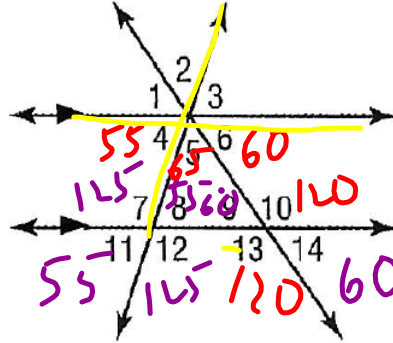
Part IV: Tips and Reminders

- State reasons as you calculate
- Highlight parallel lines
- Look for alternative routes if you get stuck
- Know your vocabulary!
- Don't forget your calculator
- Test sections:
 - > Vocab - matching
 - > Short answer
 - > Short answer with explanation

Name: _____

GCC Unit 1 Practice

In the figure, $m\angle 11 = 55^\circ$ and $m\angle 14 = 60^\circ$. Find the measure of each angle. State the geometric reason for each step.



$$\begin{array}{r} 55 \\ + 60 \\ \hline 115 \end{array}$$

$$\begin{array}{r} 180 \\ - 115 \\ \hline 65 \end{array}$$

Angle	Angle Measure	Reason
$\angle 1$	60	vertical \angle s are \cong
$\angle 2$	65	vertical \angle s are \cong
$\angle 3$	55	vertical \angle s are \cong
$\angle 4$	55	corr \angle s are \cong
$\angle 5$	65	\angle s of a Δ sum to 180
$\angle 6$	60	corr \angle s are \cong
$\angle 7$	125	Linear pairs are supp
$\angle 8$	55	vertical \angle s are \cong
$\angle 9$	60	vertical \angle s are \cong
$\angle 10$	120	vertical \angle s are \cong
$\angle 11$	55	Given
$\angle 12$	125	Linear pairs are supp
$\angle 13$	120	Linear pairs are supp
$\angle 14$	60	Given

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