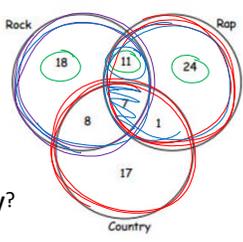## CODE RED – DO NOW

Complete Problems #1-4

G.1c

1) How many students like Rock?
$18 + 11 + 7 + 8 = 44$

2) How many like Rap **V** Country?
$24 + 11 + 7 + 1 + 8 + 17 = 68$

3) How many <u>do not like</u> Country?
$18 + 11 + 24 = 53$

4) How many like Rock and Rap **only**?
11

CODE YELLOW – EXIT TICKET

Complete Problems #1-4

1. Write the 6 corresponding parts if $\triangle JKL \cong \triangle MNO$	2. Write the congruence statement given the two triangles.
JKL $\angle J \cong \angle M$ $\overline{KL} \cong \overline{NO}$ MNO $\angle K \cong \angle N$ $\overline{JL} \cong \overline{NO}$ $\angle L \cong \angle O$ $\overline{JK} \cong \overline{MN}$	BCD QRS $\triangle BCD \cong \triangle QRS$
3. Given: $\triangle BAC \cong \triangle FED$. If $\angle \underline{DFE} = 50°$ and $m\angle \underline{ACB} = 85°$, find $m\angle \underline{BAC}$. BAC FED 45°	4. Given $\triangle CJR \cong \triangle MLS$, $\overline{ML} = 7x + 4$ and $\overline{JC} = 12x - 6$, <u>find CJ</u>. $CJ = 18$ CJR MLS $\overline{ML} \cong \overline{JC}$ $7x + 4 = 12x - 6$ $x = 2$

LABELING CONGRUENT PARTS

SOL G.6

Learning Target: By the end of class today, I will be able to correctly label corresponding parts of congruent triangles after taking notes and completing group practice, as evidenced by scoring at least 75% (3 of 4) on the class exit ticket.

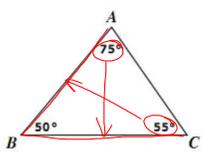Essential Question: What is the relationship between corresponding parts of congruent triangles?

Today's Agenda

✓DO NOW
✓Exit Ticket Recap
✓Whiteboard Practice
✓Congruent Triangles
✓Exit Ticket

CODE BLUE

Whiteboard Practice

CODE BLUE

Which list has the sides of $\triangle ABC$ ordered from longest to shortest?

A. AB, AC, BC
B. AC, AB, BC
C BC, AB, AC
D BC, AC, AB

CODE BLUE

Given: Triangle WTR with WT = 13 and WR = 21. Identify possible lengths for TR .

[handwritten: 21 − 13 = 8] $8 < X < 34$ *[handwritten: 21 + 13 = 34]*

6	11	32	45
8	25	34	50

(6, 32, 45, 8, 34, 50 crossed out; 11 and 25 circled)

CODE BLUE

[handwritten: Great ∠B, ∠G, ∠R Least]

In the triangle shown, *GR* = 11, BR = 8, and *BG* = 7.

Which statement is true about the angles in Δ*RGB* ?

A $m \angle R$ is the greatest
B $m \angle G$ is the least
C $m \angle G$ is the greatest
D $m \angle R$ is the least *(circled)*

CODE BLUE

Two sides of a triangle measure 14 inches and 8 inches. Which cannot be the length of the remaining side?

A) 8 in. *(crossed out)* $6 < X < 22$
B) 6 in. *(circled)*
C) 14 in. *(crossed out)*
D) 21 in. *(crossed out)*

CODE BLUE

Which lists the sides of Δ*BCD* in order from shortest to longest?

A BC , BD , CD *(crossed out)*
B CD , BD , BC *(crossed out)*
C BC , CD , BD *(circled)*
D BD , CD , BC *(crossed out)*

CODE BLUE

Which of the following sets of numbers could be the side lengths of a triangle?

A	2 ft, 19 ft, 20 ft
B	7 ft, 40 ft, 48 ft
C	12 ft, 15 ft, 26 ft
D	17 ft, 20 ft, 36 ft
E	20 ft, 74 ft, 85 ft
F	34 ft, 62 ft, 96 ft
G	42 ft, 45 ft, 74 ft

(A, C, D, E, G circled; 20 in row A circled)

CODE BLUE

In ΔGHI, GH = 4 cm, HI = 6 cm, and GI = 8 cm. Which lists the angles from largest to smallest?

A. ∠I, ∠G, ∠H
B. ∠G, ∠I, ∠H
C. ∠H, ∠I, ∠G
D. ∠H, ∠G, ∠I

[handwritten table: ∠ | Sides ; H | GI ; G | HI ; I | HG S]

CODE YELLOW

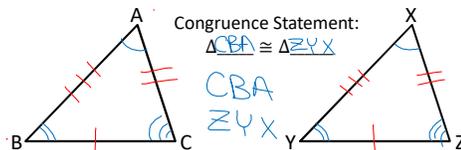**REVIEW!**   **Vocabulary**

Corresponding Parts of Congruent Triangles are Congruent (CPCTC)

$\cong$
Congruent Triangles - two triangles that are the same shape and size.

Corresponding Parts - angles or sides that are in the same relative position in both triangles.
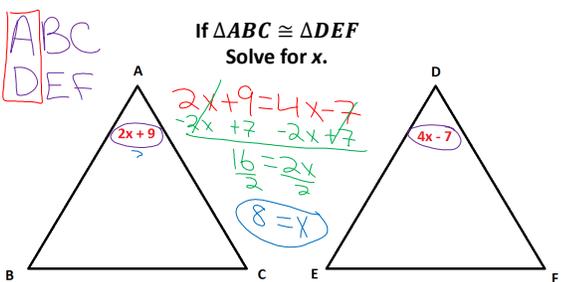
CODE YELLOW

Congruent Triangles

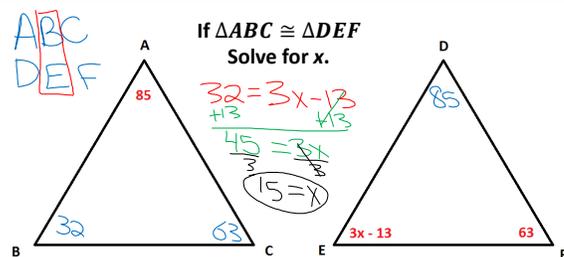Congruence Statement:
$\triangle CBA \cong \triangle ZYX$

CBA
ZYX

$\overline{BC} \cong \overline{YZ}$ $\overline{AC} \cong \overline{XZ}$ $\overline{AB} \cong \overline{XY}$

Corresponding Parts:

$\angle A \cong \angle X$ $\angle B \cong \angle Y$ $\angle C \cong \angle Z$

CODE YELLOW

ABC
DEF

If $\triangle ABC \cong \triangle DEF$
Solve for x.

$2x + 9$ $4x - 7$

$2x + 9 = 4x - 7$
$-2x + 7 \quad -2x + 7$
$\dfrac{16}{2} = \dfrac{2x}{2}$
$8 = x$

CODE GREEN

ABC
DEF

If $\triangle ABC \cong \triangle DEF$
Solve for x.

85   85
32   63 $3x - 13$ 63

$32 = 3x - 13$
$+13 \qquad +13$
$\dfrac{45}{3} = \dfrac{3x}{3}$
$15 = x$

CODE RED – DO NOW

Complete Problems #1-3

1) What is the midpoint of $\overline{CD}$, given C (-1,4) and D (3,-1)?

$M = \left(\dfrac{x_1+x_2}{2}, \dfrac{y_1+y_2}{2}\right) = \left(1, \dfrac{3}{2}\right)$

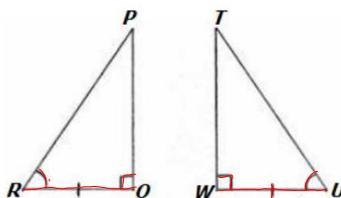2) What does the word "BISECTOR" mean?

Cut into 2 equal parts

3) Point M is the midpoint of $\overline{LN}$. Find the length of $\overline{LM}$.

L   6x-7   M   5x+1   N

$6x - 7 = 5x + 1$
$x = 8$
$6(8) - 7$
41

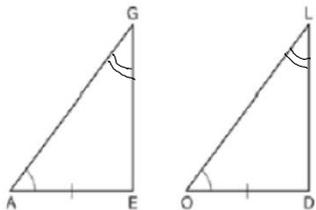## CODE YELLOW

What do you know about these two triangles?

$\angle Q \cong \angle W$
$\angle R \cong \angle U$
$\overline{RQ} \cong \overline{UW}$

Congruence Statement:
$\triangle QPR \cong \triangle WTU$

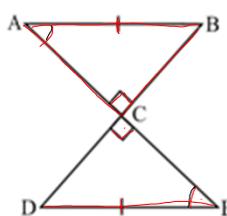## CODE YELLOW

What do you know about these two triangles?

$\angle G \cong \angle L$
$\angle A \cong \angle O$
$\overline{AE} \cong \overline{OD}$

Congruence Statement:
$\triangle GAE \cong \triangle LOD$

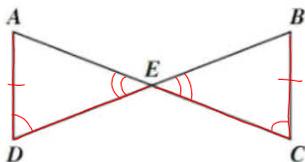## CODE YELLOW

What do you know about these two triangles?

$\angle A \cong \angle E$
$\angle ACB \cong \angle ECD$
$\overline{AB} \cong \overline{DE}$

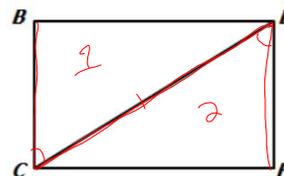Congruence Statement:
$\triangle BCA \cong \triangle DCE$

CODE YELLOW

$\angle ADE \cong \angle BCE$
$\overline{AD} \cong \overline{BC}$
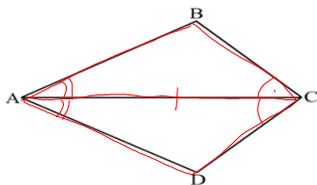$\angle AED \cong \angle BEC$

CODE YELLOW

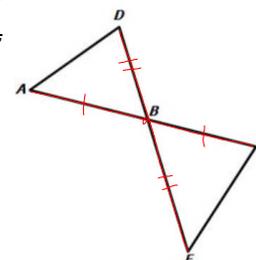$\angle CDF \cong \angle DCB$
$\overline{DC} \cong \overline{CD}$

CODE YELLOW

$\overline{AC}$ bisects $\angle BCD$
$\overline{AC}$ bisects $\angle BAD$

CODE YELLOW

B is the midpoint of $\overline{AC}$
B is the midpoint of $\overline{DE}$
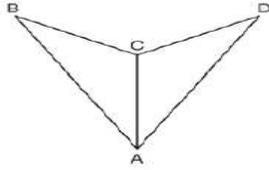$\angle ABD \cong \angle CBE$

4

CODE GREEN

$\overline{AC}$ bisects $\angle BAD$

$\overline{DA} \cong \overline{BA}$
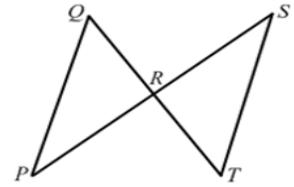
$\overline{AC} \cong \overline{CA}$

CODE GREEN

R is the midpoint of $\overline{QT}$
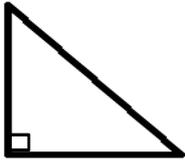
$\angle QRP \cong \angle TRS$

$\overline{PR} \cong \overline{SR}$

CODE YELLOW

Vocabulary

Right Triangle – A triangle with one right angle

Hypotenuse – the longest side of a right triangle

Legs – the other two sides of a right triangle

CODE YELLOW

There are 5 WAYS to PROVE TRIANGLES are CONGRUENT:

SSS : all <u>sides</u> are congruent

SAS : two <u>sides</u> and the <u>angle between</u> them are congruent

ASA : two <u>angles</u> and the <u>side between</u> them are congruent

AAS : two <u>angles</u> and an <u>attached side</u> are congruent

HL : the <u>hypotenuse</u> and one <u>leg</u> are congruent

CODE RED – EXIT TICKET

Write a paragraph (3-5 sentences) summarizing what you learned in this lesson.

Complete your EXIT TICKET silently and independently at your seat. Remember to do your best and TRY every problem.

When you are finished, raise your hand and Coach Riddick will come around to collect it.