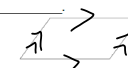
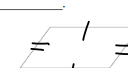
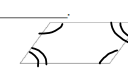

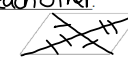


Geometry CC - Unit 9
Lesson 5: Parallelograms
MI.128

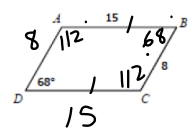
A parallelogram is a trapezoid that also has:

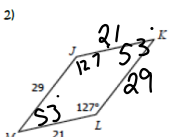
- 1) Opposite sides are \parallel 
- 2) Opposite sides are \parallel 
- 3) Opposite angles are \cong 
- 4) Consecutive angles are Supplementary 
- 5) The diagonals bisect each other 

* Make flash Cards for these properties!!!

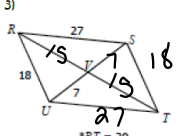
Mar 7-7:47 AM

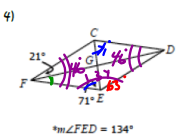
Directions: Each quadrilateral below is a parallelogram. Find the missing measures.

2)  $AD = \frac{8}{15}$
 $DC = \frac{15}{15}$
 $m\angle A = \frac{112}{112}$
 $m\angle B = \frac{68}{68}$
 $m\angle C = \frac{112}{112}$

2)  $JK = \frac{21}{29}$
 $KL = \frac{29}{29}$
 $m\angle J = \frac{127}{127}$
 $m\angle K = \frac{53}{53}$
 $m\angle M = \frac{53}{53}$

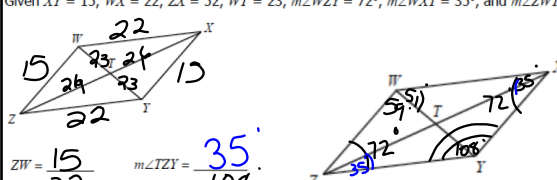
Mar 7-7:48 AM

3)  $UT = \frac{27}{18}$
 $ST = \frac{18}{18}$
 $VS = \frac{7}{7}$
 $VT = \frac{15}{15}$
 *RT = 30

4)  $m\angle DEC = \frac{63}{63}$
 $m\angle CDE = \frac{46}{46}$
 $m\angle ECD = \frac{71}{71}$
 $m\angle DFE = \frac{25}{25}$
 *m∠FED = 134°

Mar 7-7:48 AM

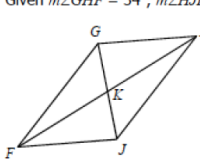
5) Given $XY = 15$, $WX = 22$, $ZX = 52$, $WT = 23$, $m\angle WZY = 72^\circ$, $m\angle WXT = 35^\circ$, and $m\angle ZWT = 59^\circ$.



$ZW = \frac{15}{22}$ $m\angle TZY = \frac{35}{35}$
 $ZY = \frac{22}{22}$ $m\angle XYZ = \frac{108}{108}$
 $TX = \frac{26}{26}$ $m\angle XWT = \frac{51}{51}$
 $WY = \frac{46}{46}$ $m\angle XYT = \frac{59}{59}$

Mar 7-7:49 AM

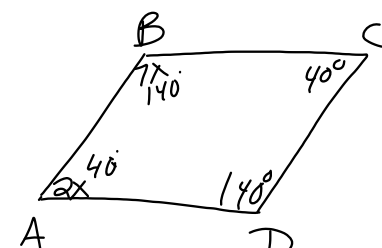
6) Given $m\angle GHF = 34^\circ$, $m\angle HJF = 124^\circ$, and $m\angle FKJ = 79^\circ$.



$m\angle GFJ = \underline{\hspace{2cm}}$ $m\angle JGH = \underline{\hspace{2cm}}$
 $m\angle FGH = \underline{\hspace{2cm}}$ $m\angle FGJ = \underline{\hspace{2cm}}$
 $m\angle HFJ = \underline{\hspace{2cm}}$ $m\angle FHJ = \underline{\hspace{2cm}}$
 $m\angle HKJ = \underline{\hspace{2cm}}$ $m\angle GJF = \underline{\hspace{2cm}}$

Mar 7-7:49 AM

7) The measures of angles A and B of parallelogram ABCD are in the ratio of 2:7. Find the degree measure of angle D.



$2x + 7x = 180$
 $9x = 180$
 $x = 20$

Mar 7-7:49 AM

19) Parallelogram ABCD is given with diagonals intersecting at E. If $AB = 4x + y$, $BC = y + 4$, $CD = 3x + 6$, and $DA = 2x + y$, find the lengths of the sides of the parallelogram.

$4x + y = 3x + 6$
 $4(2) + y = 3(2) + 6$
 $8 + y = 12$
 $y = 4$

$2x + y = y + 4$
 $2x = 4$
 $x = 2$

Mar 7-7:56 AM

20) Parallelogram ABCD is given with diagonals intersecting at E. If $AE = 5x - 3$, and $EC = 15 - x$, find AC.

$5x - 3 = 15 - x$
 $6x = 18$
 $x = 3$

$AC = 5(3) - 3 + 15 - 3$
 $= 12 + 12 = 24$

Mar 7-7:59 AM