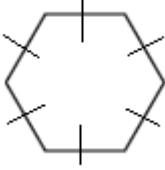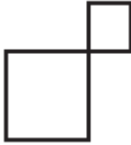Name: _____ Date: _____ Class: _____

Polygons Test Review

(#'s 1-3) Classify a) classify them by the number of sides. b) Classify as concave or convex **AND**
c) Classify as equilateral, equiangular, regular, or none of these.

	1.	2.	3.
Name the polygon	a.	a.	a.
convex or concave?	b.	b.	b.
equilateral, equiangular, regular, or none of these?	c.	c.	c.

4. Find the sum of the interior angle measures of a convex 14-gon.

5. The surface area of a trampoline is in the shape of a regular octagon. What is the measure of each interior angle of the trampoline?
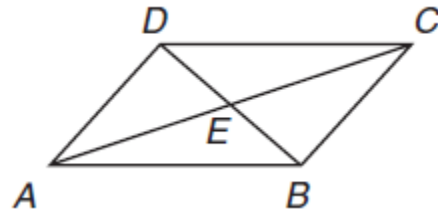
6. A flower garden is surrounded by paths as shown. Find the measure of each exterior angle of the flower garden.

$(7z-5)^\circ$ $(5z+10)^\circ$

$4z^\circ$ $(4z+15)^\circ$
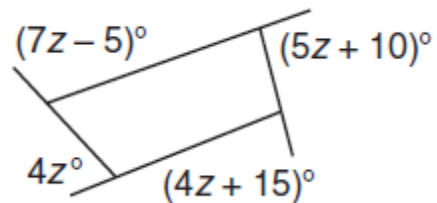
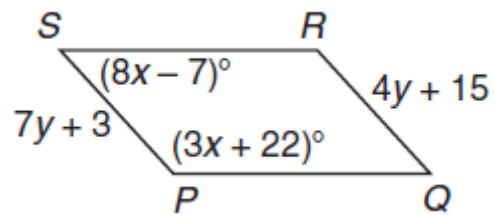7. Find the measure of each exterior angle of a regular hexagon.

8. In parallelogram $ABCD$, $CD = 20$, $BE = 9$, and $m\angle DAB = 50°$. Find each measure.

   a) BD

   b) AB

   c) DE

   d) $m\angle ABC$
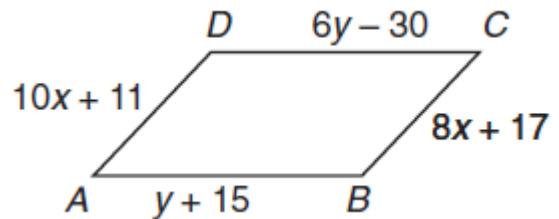
   e) $m\angle BCD$

   f) $m\angle CDA$

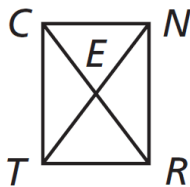9. $PQRS$ is a parallelogram. Find each measure.

   a) PS

   b) QR

   c) $m\angle P$

   d) $m\angle S$

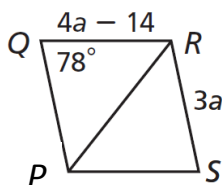10. Show that $ABCD$ is a parallelogram for $x = 3$ and $y = 9$.

11. A slab of concrete is poured with diagonal spacers. In rectangle $CNRT$, $CN = 30\ ft$, and $NT = 52\ ft$. Find each length.

    TR = ----------------

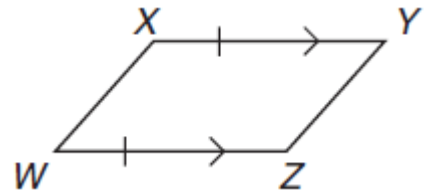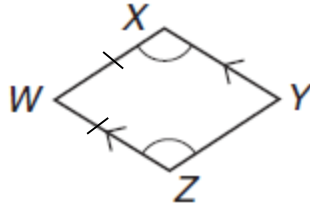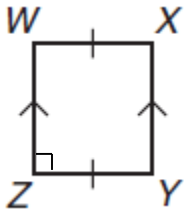   ER= ----------------

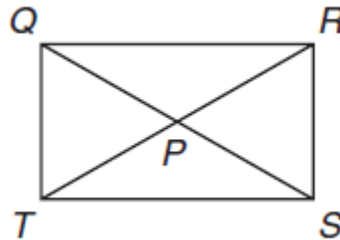12. $PQRS$ is a rhombus. Find each measure.

    $PS =$ _____

    $m\angle QPR =$ _____

13. Determine if each quadrilateral must be a parallelogram, if yes classify which one.
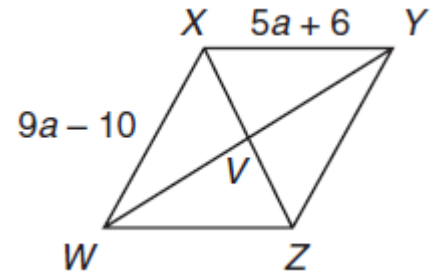

_____   _____   _____

14. In rectangle $QRST$, $RT = 55$, and $QR = 45$. Find each length.

a) PR

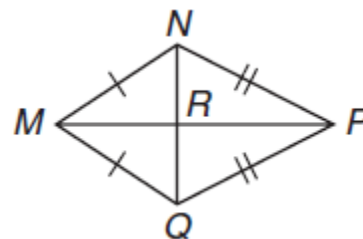b) RS

c) QS

d) QP

15. $WXYZ$ is a rhombus. Find YZ.

16. Find $m\angle WXZ$ and $m\angle XYZ$ if $m\angle YVZ = (7b + 27)°$ and $m\angle WYZ = (3b + 7)°$.
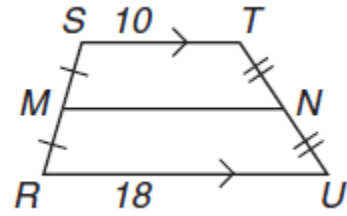

(Use figure for #15 & #16)

17. In the kite $MNPQ$, $m\angle NQP = 70°$ and the $m\angle NMQ = 60°$. Find each measure.

a) $m\angle NMR$

b) $m\angle MQR$

c) $m\angle NPR$

d) $m\angle MQP$

18. Find MN.

S 10   T

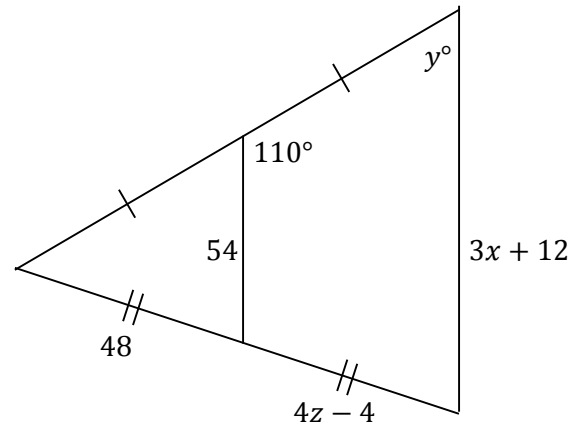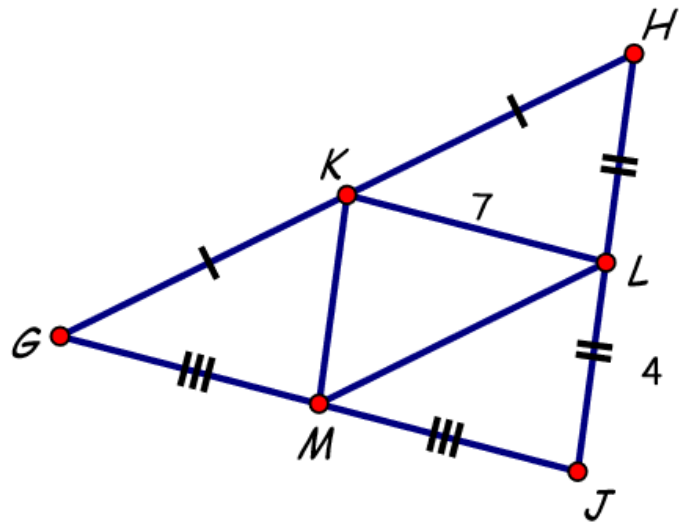M   N

R   18   U

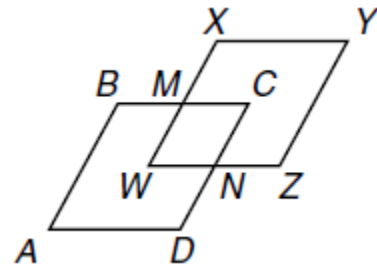19. Find the value of each variable.

$x =$ _____

$y =$ _____

$z =$ _____

$y°$

110°

54

$3x + 12$

48

$4z - 4$

20. In ΔGHJ, $GH = 12$. Find the perimeter of ΔGHJ and ΔKLM.

H

K

7

L

G

M

4

J

21. Given: $ABCD$ and $WXYZ$ are congruent rhombi. M is the midpoint of $\overline{BC}$ and $\overline{WX}$ and N is the midpoint of $\overline{DC}$ and $\overline{WZ}$.

Prove: $WMCN$ is a rhombus.

Statements	Reasons
1. $ABCD$ and $WXYZ$ are congruent rhombi. M is the midpoint of $\overline{BC}$ and $\overline{WX}$ and N is the midpoint of $\overline{DC}$ and $\overline{WZ}$.	1.
2. $BC = DC = WX = WZ$	2.
3. $BM + MC = BC$ $WM + MX = WX$ $DN + NC = DC$ $WN + NZ = WZ$	3.
4. $BM + MC = DN + NC = WM + MX = WN + NZ$	4.
5. $BM = MC, WM = MX$ $DN = NC, WN = NZ$	5.
6. $MC + MC = NC + NC = WM + WM = WN + WN$	6.
7. $2(MC) = 2(NC) = 2(WM) = 2(WN)$	7.
8. $MC = NC = WM = WN$	8.
9. $WMCN$ is a rhombus	9.