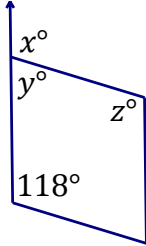Name _____

Chapter 6 Packet 1

This entire packet is due the day of the first Chapter 6 quiz: Tuesday, November 27
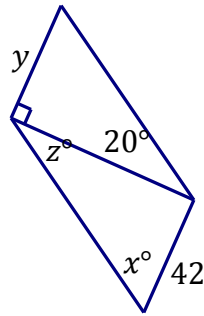
§6-1

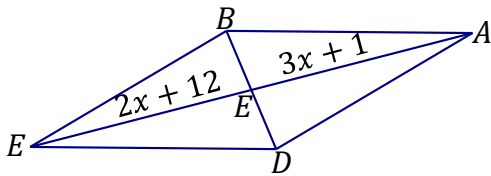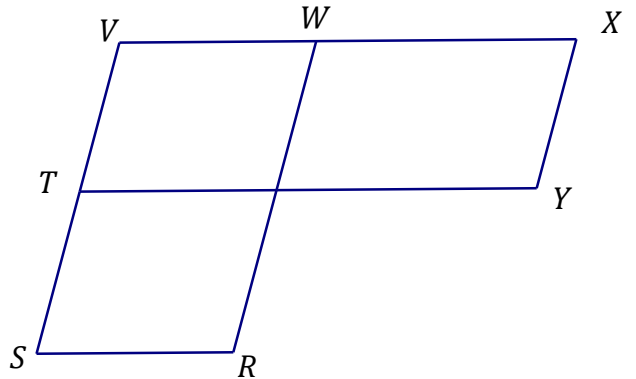*For each parallelogram, find the values of x, y, and z.*

1)

$x°$
$y°$
$z°$
$118°$

2)

y
$z°$ $20°$
$x°$ 42

3)

B
$3x + 1$ A
$2x + 12$
E
E
D

$BE = 2y + 9, ED = 3y - 8, BD = 2z$

4) **Write a two-column proof:**
Given: *SRWV* and *TVXY* are parallelograms.
Prove: ∠Y ≅ ∠R

V W X
T Y
S R

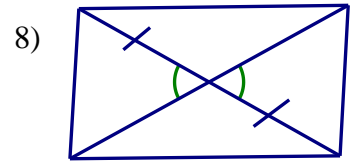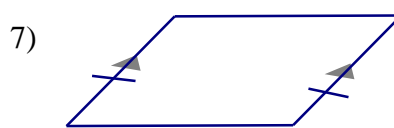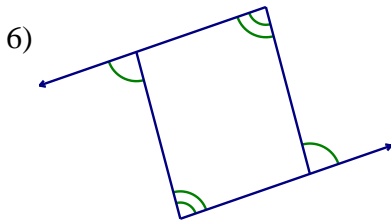5) **Write a two-column proof:**
   Given: Parallelogram *TEAM*
   $MS = FS$
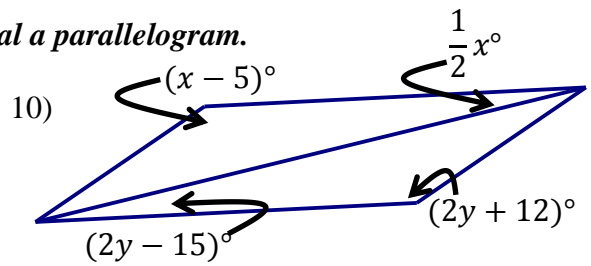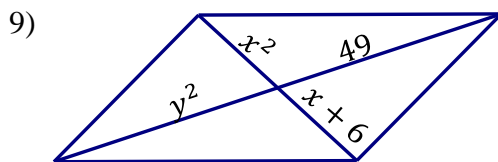   Prove: $\angle F \cong \angle TEA$
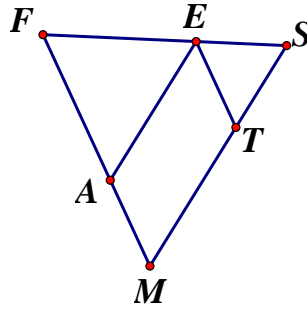
§6-2

Determine if each quadrilateral is a parallelogram. Justify your answer.

6)

7)

8)

Find the values of x and y that make each quadrilateral a parallelogram.
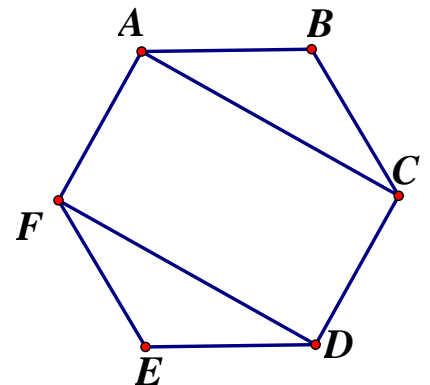
9)

10)

Write a 2-column proof.

11) Prove the theorem: *If both pairs of opposite angles of a quadrilateral are congruent, then the quadrilateral is a parallelogram.*

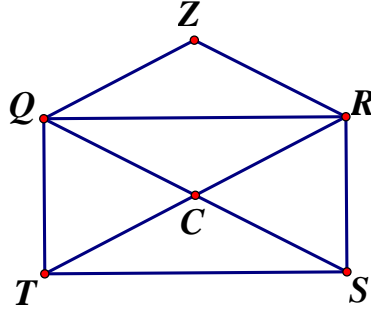12) A *regular hexagon* is a six-sided polygon with all sides and all angles congruent.
Given: *ABCDEF* is a regular hexagon
Prove: *FDCA* is a parallelogram.

§6-3

Use rectangle QRST, parallelogram QZRC, and the given information to solve each problem.
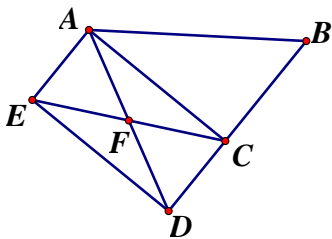
Z

Q   R

C

T   S

13) $m\angle RCS = 35$. Find $m\angle QZR$.

14) $RT = 3x^2$ and $QC = 5x + 4$. Find the value of x.

15) $RZ = 6x, ZQ = 3x + 2y$, and $CS = 14 - x$. Find the values of x and y.

Write a two-column proof.

16) Given: $ACDE$ is a rectangle.
         $ABCE$ is a parallelogram.
     Prove: $\triangle ABD$ is isosceles

17) Given: $HJLM$ is a rectangle
         $\overline{KJ} \cong \overline{NM}$
     Prove: $\overline{HK} \cong \overline{LN}$

A   B

E

F   C

D

H   J

K

N

M   L