Geometry –~~Learning Check~~ Study Guide
Parallelograms

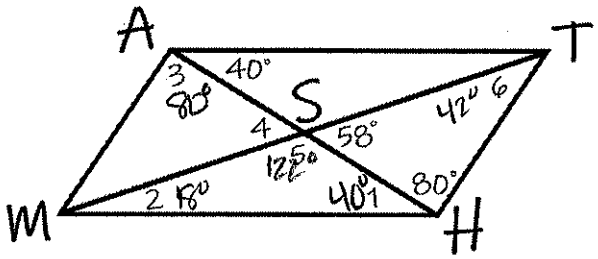
Name: Key
Date: _____

Circle T or F for each of the following.

1. (T) or F All squares are parallelograms.
2. T or (F) All rectangles are squares.
3. (T) or F All squares are a rhombi.
4. (T) or F All rhombi are quadrilaterals.
5. (T) or F A rectangle is a parallelogram.
6. T or (F) All quadrilaterals are rectangles.

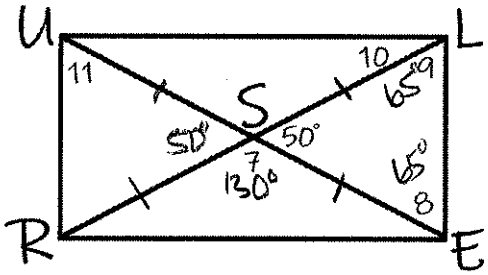
Find the missing angles.

7. MATH is a parallelogram.



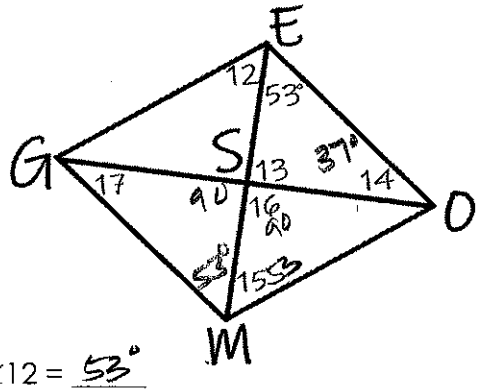
m∠1 = 40°
m∠2 = 18°
m∠3 = 80°
m∠4 = 58°
m∠5 = 122°
m∠6 = 42°

8. RULE is a rectangle.



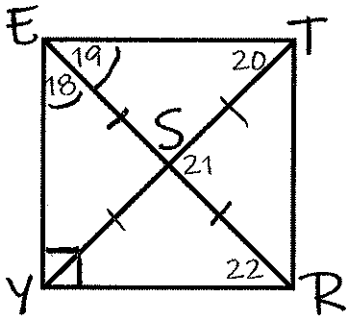
m∠7 = 130°
m∠8 = 65°
m∠9 = 65°
m∠10 = 25°
m∠11 = 65°

9. GEOM is a rhombus.



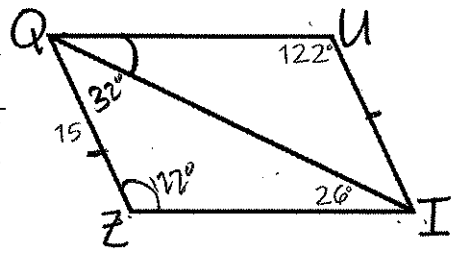
m∠12 = 53°
m∠13 = 90°
m∠14 = 37°
m∠15 = 53°
m∠16 = 90°
m∠17 = 37°

10. ETRY is a square.



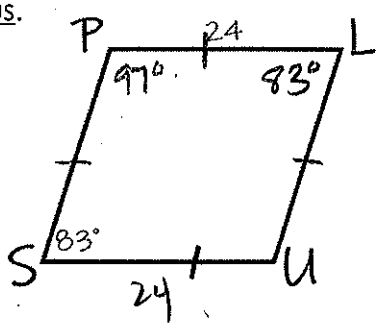
m∠18 = 45°
m∠19 = 45°
m∠20 = 45°
m∠21 = 90°
m∠22 = 45°

11. QUIZ is a parallelogram.



m∠QZI = 122°
m∠UQI = 26°
m∠ZQI = 32°
m∠ZIU = 58°
UI = 15

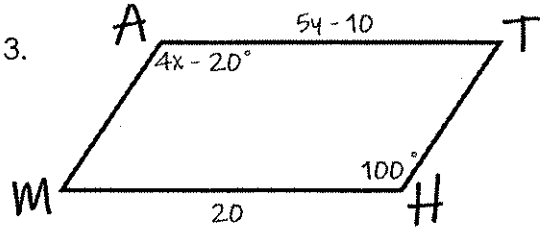
12. PLUS is a rhombus.



m∠PLU = 83°
m∠SPL = 97°
SU = 24
PS = 24

Fill in the blanks using the parallelograms below.

13.

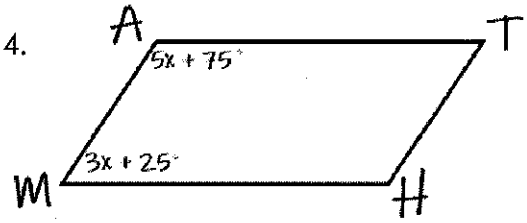


x = 30 $4x - 20 = 100$

m∠ATH = 80°

y = 6 $5y - 10 = 20$, $5y = 30$

14.



x = 16 $8x + 100 = 180$, $8x = 80$, $x = 10$

m∠MAT = 125°

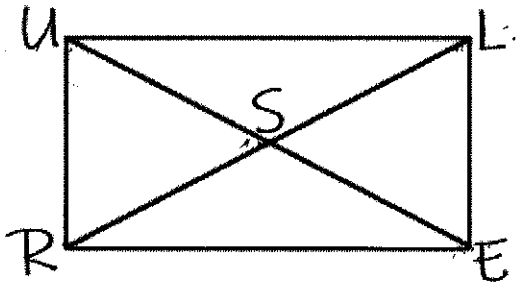
m∠ATH = 55°

Use rectangle RULE for questions 15 – 19. These questions are independent of each other.

15. If m∠RUS = 72 degrees, find m∠SUL. m∠SUL = 18°

$90 - 72$

16. Find m∠REL. m∠REL = 90°



17. If RS = 3x + 8 and SE = 6x – 28, find US. x = 12; US = 44

$3x + 8 = 6x - 28$
$-3x = -36$
$x = 12$

$3(12) + 8$
44

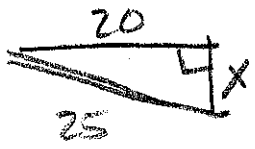
18. If RL = 5x + 8 and SL = 4x + 1, find UE. x = 2; UE = 18

$5x + 8 = 2(4x + 1)$
$5x + 8 = 8x + 2$

$-3x = -6$
$x = 2$

$5(2) + 8$

19. If UL = 20 and UE = 25, find LE. LE = 15

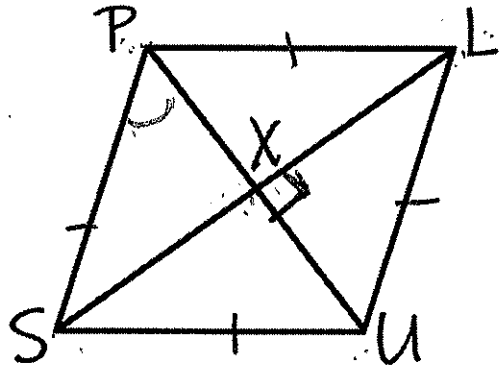


$x^2 + 20^2 = 25^2$
$x^2 = 225$
$x = 15$

Use rhombus PLUS for questions 20 – 24. These questions are independent of each other.

20. If m∠UXL = 3x + 15, find x. x = 25

$3x+15=90$



21. If PS = 2x + 10 and SU = 4x – 4, find UL. x = 7; UL = 24

$2x+10=4x-4$

$-2x=-14$

22. If XL = 21 and PL = 29, find PX. PX = 20

$x^2+21^2=29^2$

23. If m∠SPX = 2x – 45 and m∠XPL = x + 9, find m∠SUL. x = 54; m∠SUL = 126°

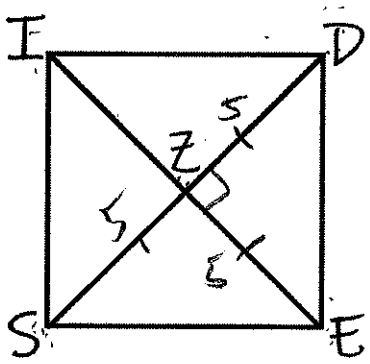
$2x-45=x+9$

$x=54$

24. If m∠PLU = 87 degrees, find m∠PLX. m∠PLX = 43.5°

Use square for questions 25 - 30. These questions are independent of each other.

25. Find m∠SIZ. m∠SIZ = 45°



26. If m∠IDE = 2x + 48, solve for x. x = 21

$2x+48=90$

27. If SI = 10x – 2 and ID = 5x + 18, find SE. x = 4; SE = 38

$10x-2=5x+18$

$5x=20$

28. If m∠ESZ = 6x – 57, solve for x. x = 17

$6x-57=45$

$x=17$

29. If IE = 30 and SZ = 2x + 1, solve for x. x = 7

$2(2x+1)=30$ $4x+2=30$

30. If SD = 10, find DE. DE = $5\sqrt{2}$

$5^2+5^2=c^2$

$\sqrt{50}=\sqrt{c^2}$

$\sqrt{50}=\sqrt{25\cdot 2}$

$5\sqrt{2}$