Name_____Per._____Date_____
Geometry Ch. 6 Practice Test

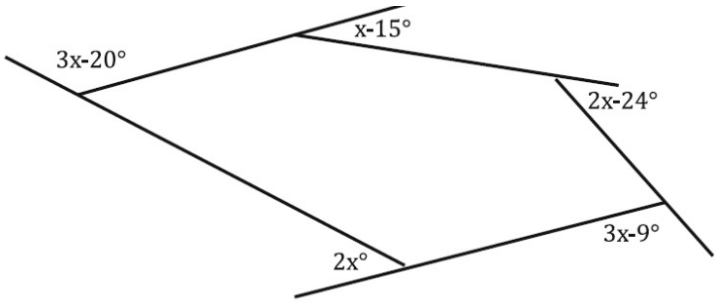
Answer questions 1-5 based on the information given.
Show equations and setups, box your final answer.

1. What is the sum of the interior angles of a decagon?

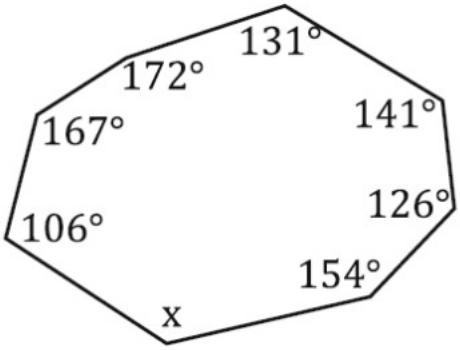
2. What is the measure of one exterior angle of a regular 12-gon?

3. What is the measure of one interior angle of a regular heptagon?

4. Find the value of *x*.



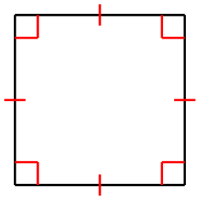
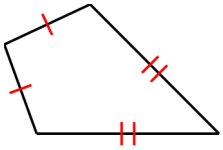
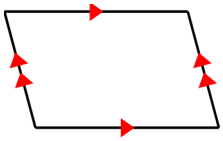
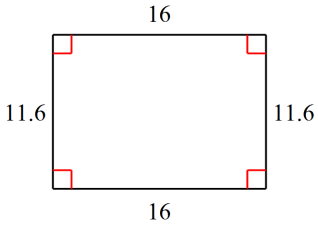
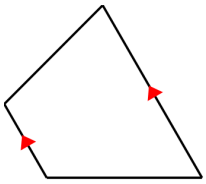
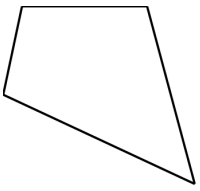
5. Find the measure of the missing angle.



For # 6-11, using the definitions that you know:

a. Classify each of the figures below as a(n): *trapezoid, isosceles trapezoid, parallelogram, rectangle, rhombus, square* or *kite*. Write the name of the quadrilateral below the figure. There is only one correct answer for each figure.

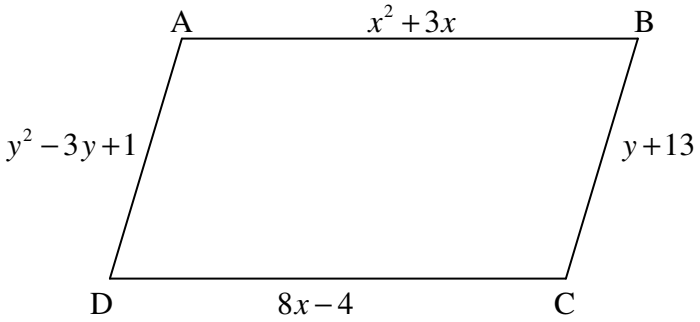
b. Give a reason for your answer.

 6._____	 7._____	 8. _____
 9. _____	 10. _____	 11._____

12. Use $\square$ABCD to find x and y. Give a reason for your setups.

$x =$ _____

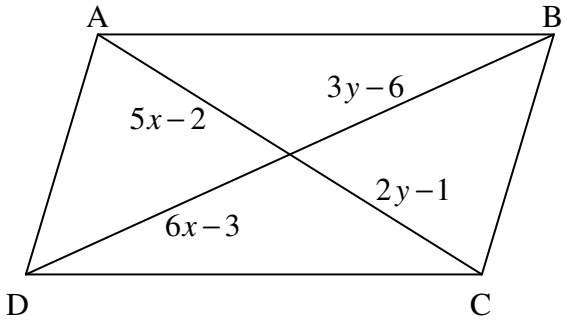
$y =$ _____



13. Use $\square$ABCD to find x and y. Give a reason for your setups.

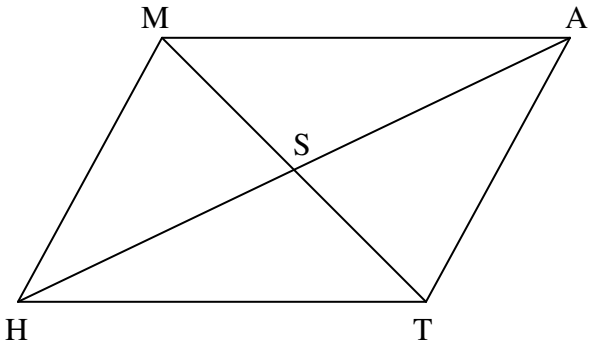
$x =$ _____

$y =$ _____



For problems 14-15, complete each statement about ▱MATH.
Then justify your answer!!! (Explain why your answer is true.)

14. $\overline{MA} \cong$ _____

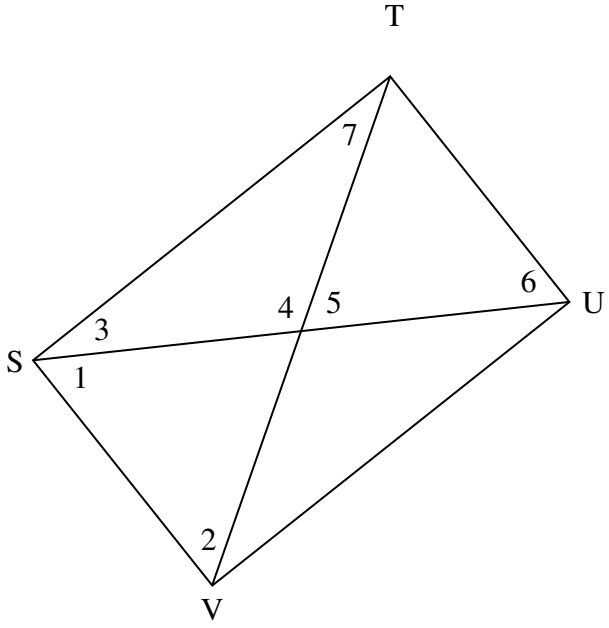


15. ∠MAT is supplementary to _____

Use rectangle STUV and the given information for problems 16-17. Show your steps and give reasons.

16. $m\angle 7 = 36$, find $m\angle 2$

$m\angle 2$ = _____

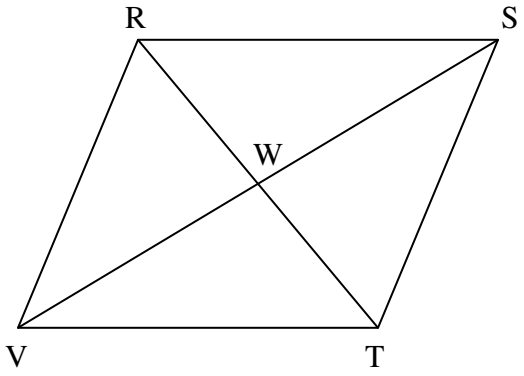


17. $m\angle 1 = x + 41$, $m\angle 2 = 3x + 15$,
Find x and m∠6.

x = _____

$m\angle 6$ = _____

Quadrilateral RSTV is a rhombus. Use the figure and information for problems 18-19. Give reasons for your setups.



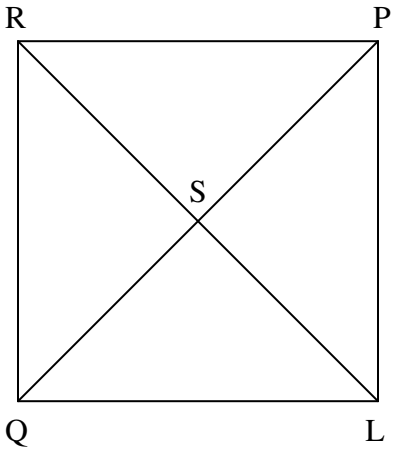
18. SV = 16, ST = 14, Find WT. (Leave your answer in simplified square root form)

WT = _____

19. $m\angle \text{VRT} = 2x + 45$, $m\angle \text{RTV} = x^2 + 5x + 5$, Find x.

x = _____

Use square QRPL for problems 20-21 to find *x*. Give reasons for your setups.



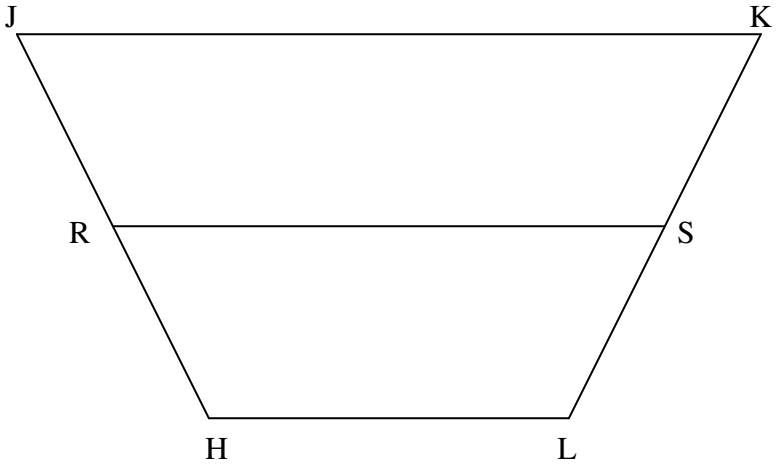
20. RL = $11x + 2$
    QP = $6x + 37$

x = _____

21. $m\angle RSQ = 4x + 2$

x = _____

Use isosceles trapezoid HJKL with median $\overline{RS}$ for problems 22-23. Give reasons for your setups.



22. If HL = 9 and JK = 27, Find RS.

RS = _____

23. If JK = $7x - 7$, RS = 11, and HL = $x + 5$, Find x.

x = _____

For problems 24-28, fill in the blank for each statement with **ALWAYS, SOMETIMES, or NEVER. (Each of these is worth 1 point each.)**

24. A rectangle is _____ a rhombus.

25. Diagonals of a parallelogram are _____ congruent.

26. A square's diagonals are perpendicular but are not congruent. _____

27. Diagonals of a rectangle _____ bisect each other.

28. Diagonals of a parallelogram _____ bisect the opposite angles.