

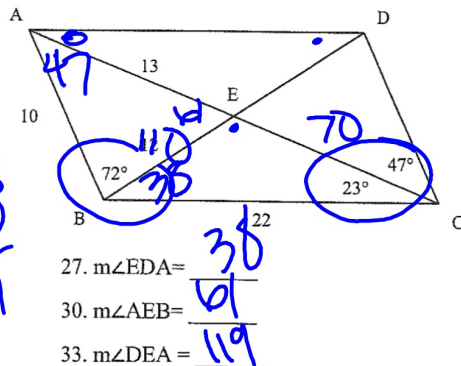
Parallelogram Worksheet

I. Complete each statement.

- In a parallelogram, opposite sides are 11 and $\cong$.
- In a parallelogram, consecutive angles are suppl.
- In a parallelogram, diagonals bisect each other, which means they split each other in half equally.

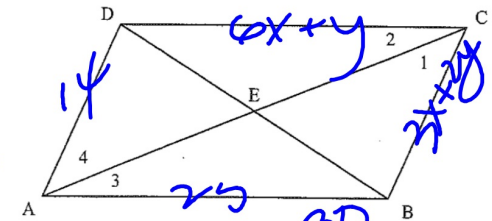
III. Find the missing measurements of Parallelogram ADCB.

- CD = 10
- DA = 22
- AC = 26
- DB = 24
- CE = 13
- DE = 12
- $m\angle ABC = 110$
- $m\angle BCE = 23$
- $m\angle BCD = 70$
- $m\angle ADC = 110$
- $m\angle BAD = 70$
- $m\angle CDE = 72$
- $m\angle DAE = 23$
- $m\angle EAB = 47$
- $m\angle BEC = 119$
- $m\angle CED = 61$



II. Complete each statement, using Parallelogram DCBA

- If AD = 20, then BC = 20
- If AB = 13, then DC = 13
- If DB = 22, then DE = 11
- If AE = 18, then AC = 36
- If $m\angle ADC = 115^\circ$, then $m\angle ABC = 115$
- If $m\angle DAB = 75^\circ$, $m\angle ADC = 105$
- If $m\angle AED = 72^\circ$, $m\angle DEC = 108$
- If $m\angle ADC = 130^\circ$, and $m\angle 1 = 35^\circ$, $m\angle 2 = 15$
- If AC = 30 and AE = $3x + 3$, then x = 4
- If DC = $6x + y$, BC = $3x + 2y$, AB = 26, and AD = 14, then x = 4 and y = 1



Fill in the formula used to find each:

1. Sum of the interior angles of a polygon:	$180(n-2)$
2. Sum of the exterior angles of a polygon:	$= 360$
3. Each interior angle of a regular polygon can be found by:	$180(n-2)/n$
4. Each exterior angle of a regular polygon can be found by:	$180 - 180(n-2)/n$

Fill in the missing information in the table below.

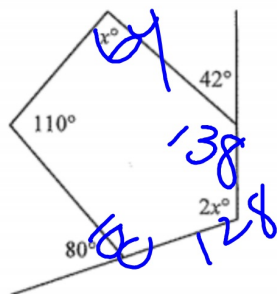
	# of sides	Interior angle sum	Measure of ONE interior angle in a regular polygon	Exterior angle sum	Measure of ONE exterior angle if a regular polygon
5.	12	1800	150	360	30
6.	18	2880	160	360	20
7.	8	1080	135	360	45
8.	30	5040	168	360	12
9.	6	720	120	360	60
10.	15	2250	156	360	24
11.	50	8040	172.8	360	7.2
12.	7	6120	171	360	10

$$180(n-2)$$

$$1080 = \frac{(n-2) \cdot 180}{n}$$



14. Find the value of x and 2x.

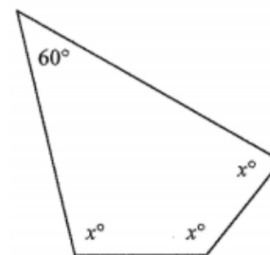


$$3x + 348 = 540$$

$$3x = 192$$

$$x = 64$$

13. Find the value of x.



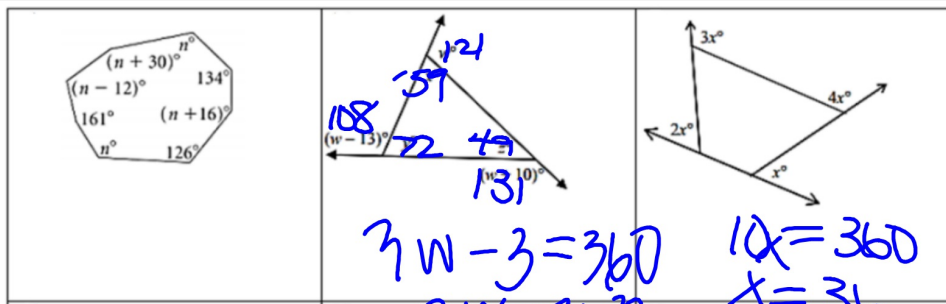
$$3x + 60 = 360$$

$$3x = 300$$

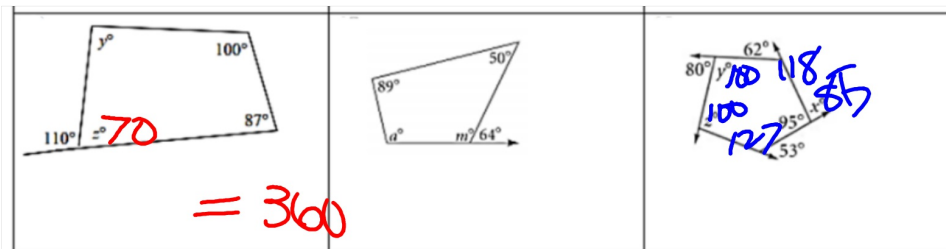
$$x = 100$$

15. Find the value of each variable.

$y + \quad = 360$		
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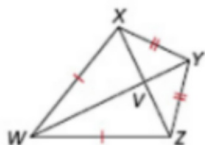


$$\begin{aligned}
 3W - 3 &= 360 & 12 &= 360 \\
 3W &= 363 & x &= 36 \\
 W &= 121
 \end{aligned}$$



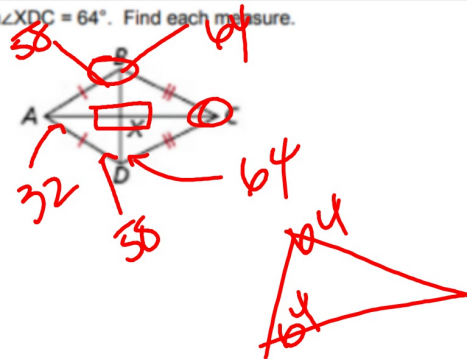
In kite WXYZ, $m\angle WXY = 104^\circ$, and $m\angle VYZ = 49^\circ$. Find each measure.

16. $m\angle VZY =$ 41
 17. $m\angle VXW =$ 67
 18. $m\angle XWZ =$ 54



In kite ABCD, $m\angle DAX = 32^\circ$, and $m\angle XDC = 64^\circ$. Find each measure.

19. $m\angle XDA =$ 58
 20. $m\angle ABC =$ 122
 21. $m\angle BCD =$ 52

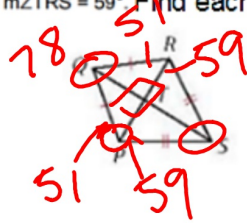


In kite PQRS, $m\angle PQR = 78^\circ$, and $m\angle TRS = 59^\circ$. Find each measure.

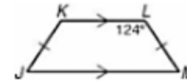
22. $m\angle QRT = \underline{31}$

23. $m\angle QPS = \underline{110}$

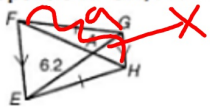
24. $m\angle PSR = \underline{62}$



25. Find $m\angle J$ in trapezoid JKLM.



26. In trapezoid EFGH, $FH = 9$. Find AG.



$$x + 6.2 = 9$$

$$x = 2.8$$