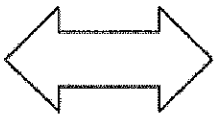
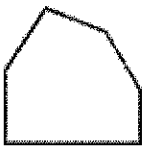
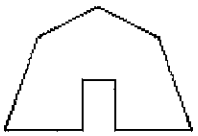
Name _____ Hour _____

Pre-AP Chapter 6 Review

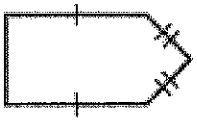
Classify the polygon by the number of sides. State whether the polygon is *convex* or *concave*.

1. 

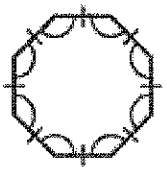
2. 

3. 

State whether the polygon is *equiangular*, *equilateral*, *regular*, or *none of these*.

4. 

5. 

6. 

7. **Find the sum of the interior angles of a convex heptagon.**

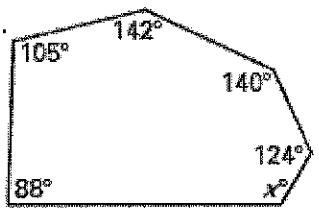
8. **The sum of the measures of the interior angles of a convex polygon is 1080°. Classify the polygon by the number of sides.**

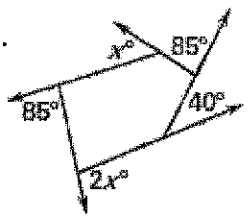
9. **Find the measure of an interior angle of a regular pentagon.**

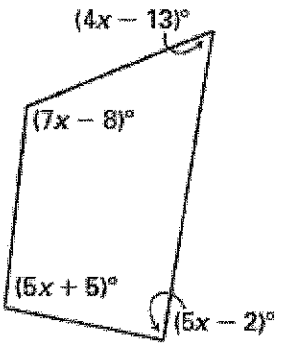
10. **Find the sum of the exterior angles of a convex nonagon.**

11. **Find the measure of an exterior angle of a regular dodecagon.**

Find the value of x.

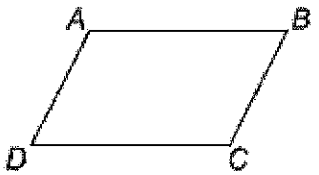
12. 

13. 

14. 

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

***ABCD* is a parallelogram.**



15. If $m\angle C = 114°$, then $m\angle D = ?$

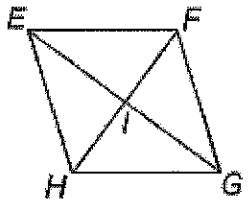
16. If $m\angle A = (3x + 24)°$ and $m\angle C = (5x - 40)°$, then $x = ?$

17. If $AD = 4x + 3$ and $BC = 7x - 15$, then $BC = ?$

Name _____ Hour _____

Pre-AP Chapter 6 Review

The diagonals of rhombus *EFGH* intersect at *I*.

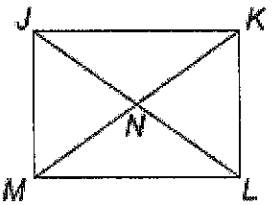


18. If $m\angle EHG = 108°$, then $m\angle FHG = ?$

19. If $FG = x+11$ and $GH = 3x+15$, then $x = ?$

20. If $EG = 6x-8$ and $IG = 2x+4$, then $EI = ?$

The diagonals of rectangle *JKLM* intersect at *N*.

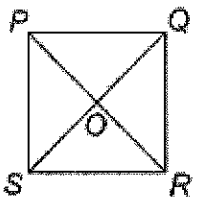


21. If $m\angle KLJ = 51°$, then $m\angle JLM = ?$

22. If $MN = 23$, then $JL = ?$

23. If $JK = 20$ and $KM = 25$, then $JM = ?$

The diagonals of square *PQRS* intersect at *O*.

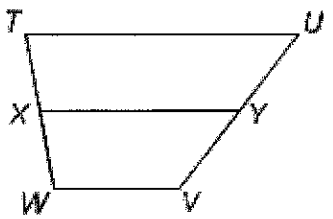


24. If $m\angle POQ = (27x+9)°$, then $x = ?$

25. If $OQ = 5x-16$ and $OS = 2x+56$, then $x = ?$

26. If $PR = 14$, then $QR = ?$

$\overline{XY}$ **is the midsegment of trapezoid *TUVW*.**

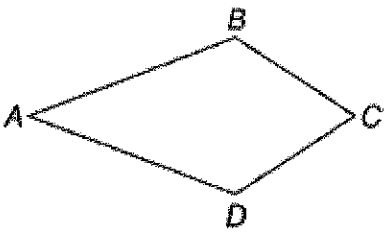


27. If $m\angle U = (x-5)°$ and $m\angle V = (2x+14)°$, then $x = ?$

28. If $TU = 66$ and $WV = 30$, then $XY = ?$

29. If $XY = 59$ and $WV = 37$, then $TU = ?$

***ABCD* is a kite.**



30. If $m\angle A = 41°$ and $m\angle C = 67°$, then $m\angle B = ?$

31. If $m\angle C = 73°$ and $m\angle D = 132°$, then $m\angle A = ?$

32. If $AB = 3x-13$, $BC = 2x-9$, and $CD = x+10$, then $x = ?$

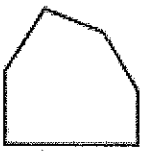
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____
31. _____
32. _____

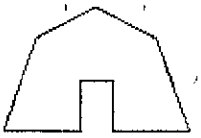
Name _____ Hour _____

Pre-AP Chapter 6 Review

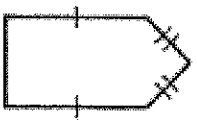
Classify the polygon by the number of sides. State whether the polygon is *convex* or *concave*.

1. 

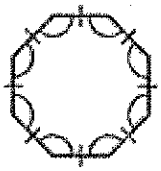
2. 

3. 

State whether the polygon is *equiangular*, *equilateral*, *regular*, or *none of these*.

4. 

5. 

6. 

7. **Find the sum of the interior angles of a convex heptagon.**
   (7-2)180 =

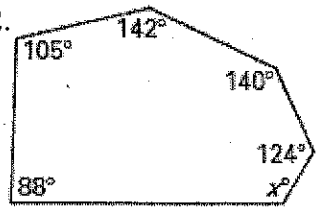
8. **The sum of the measures of the interior angles of a convex polygon is 1080°. Classify the polygon by the number of sides.**
   (n-2)(180) = 1080 n = 8

9. **Find the measure of an interior angle of a regular pentagon.**
   (5-2)180 / 5

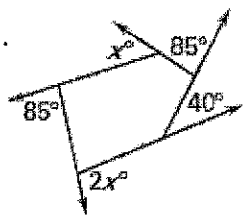
10. **Find the sum of the exterior angles of a convex nonagon.**
    360°

11. **Find the measure of an exterior angle of a regular dodecagon.**
    360 = 12m

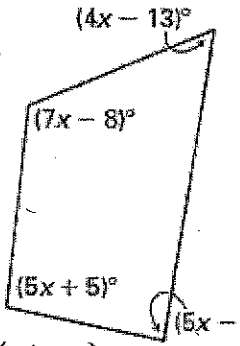
Find the value of *x*.

12. 

(6-2)(180) = 720
599 + x = 720
x = 121

13. 

3x + 210 = 360
3x = 150
x = 50

14. 

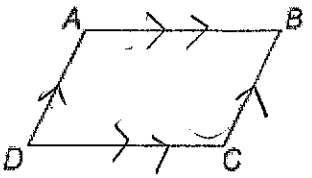
(4-2)(180) = 360
21x - 18 = 360
21x = 378
x = 18

***ABCD* is a parallelogram.**

15. If $m\angle C = 114°$, then $m\angle D = ?$
    180 - 114

16. If $m\angle A = (3x+24)°$ and $m\angle C = (5x-40)°$, then $x = ?$
    3x + 24 = 5x - 40
    64 = 2x

17. If $AD = 4x+3$ and $BC = 7x-15$, then $BC = ?$
    4x + 3 = 7x - 15 x = 6
    18 = 3x
    BC = 7(6) - 15
    42 - 15

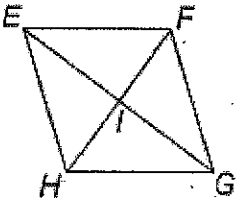


1. decagon concave
2. hexagon convex
3. nonagon concave
4. none of these
5. equiangular
6. regular
7. 900°
8. octagon
9. 108°
10. 360°
11. 30°
12. 121
13. 50
14. 18
15. 66°
16. 32
17. 27

Name _____ Hour _____

Pre-AP Chapter 6 Review

The diagonals of rhombus *EFGH* intersect at *I*.



18. If $m\angle EHG = 108°$, then $m\angle FHG = ?$

19. If $FG = x+11$ and $GH = 3x+15$, then $x = ?$

$x+11 = 3x+15$ $\quad x = -2$

$-4 = 2x$

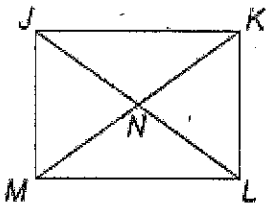
20. If $EG = 6x-8$ and $IG = 2x+4$, then $EI = ?$

$2(2x+4) = 6x-8$ $\quad 16 = 2x$

$4x+8 = 6x-8$ $\quad x = 8$

$EI = IG = 2(8)+4$

The diagonals of rectangle *JKLM* intersect at *N*.



21. If $m\angle KLJ = 51°$, then $m\angle JLM = ?$

$90-51$

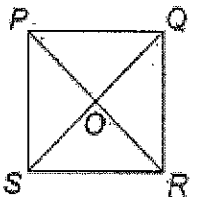
22. If $MN = 23$, then $JL = ?$

$2(23)$

23. If $JK = 20$ and $KM = 25$, then $JM = ?$

$20^2 + JM^2 = 25^2$

The diagonals of square *PQRS* intersect at *O*.



24. If $m\angle POQ = (27x+9)°$, then $x = ?$

$27x+9 = 90$

$27x = 81$

25. If $OQ = 5x-16$ and $OS = 2x+56$, then $x = ?$

$5x-16 = 2x+56$

$3x = 72$

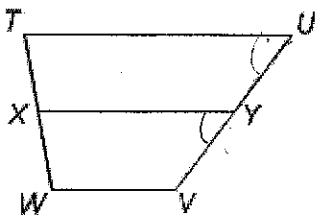
26. If $PR = 14$, then $QR = ?$

$x^2+x^2 = 14^2$ $\quad x^2 = 98$

$2x^2 = 196$ $\quad x = 7\sqrt{2}$

18.	$54°$
19.	-2
20.	20
21.	39
22.	46
23.	$JM = 15$
24.	54
25.	24
26.	$7\sqrt{2}$
27.	57
28.	48
29.	81
30.	126
31.	23
32.	19

$\overline{XY}$ is the midsegment of trapezoid *TUVW*.



27. If $m\angle U = (x-5)°$ and $m\angle V = (2x+14)°$, then $x = ?$

$x-5+2x+14 = 180$

$3x = 171$

28. If $TU = 66$ and $WV = 30$, then $XY = ?$

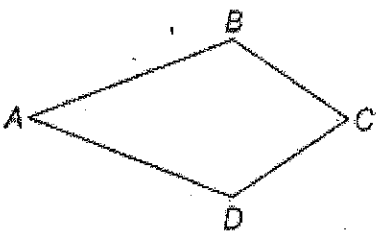
$XY = \frac{66+30}{2}$

29. If $XY = 59$ and $WV = 37$, then $TU = ?$

$\frac{37+TU}{2} = 59$ $\quad 37+TU = 118$

$TU = 81$

***ABCD* is a kite.**



30. If $m\angle A = 41°$ and $m\angle C = 67°$, then $m\angle B = ?$

$360-(41+67) = 252$

31. If $m\angle C = 73°$ and $m\angle D = 132°$, then $m\angle A = ?$

$360-73-2(132) =$

32. If $AB = 3x-13$, $BC = 2x-9$, and $CD = x+10$, then $x = ?$

$2x-9 = x+10$

$x = 19$