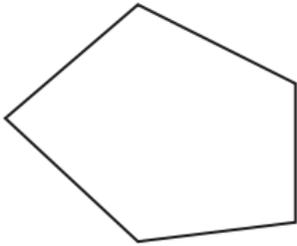


# REVIEW—Polygons

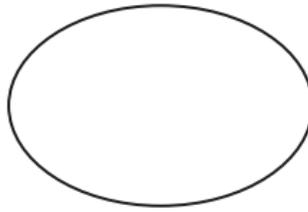
This is the worksheet we were doing during the basketball tournaments.  
YES or NO: Is each of these shapes a polygon?

1)

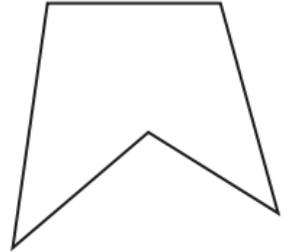


1. YES
2. NO (curved)
3. YES

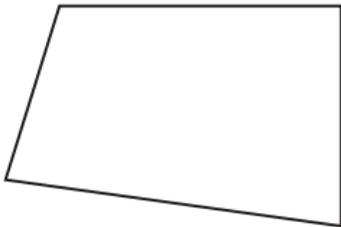
2)



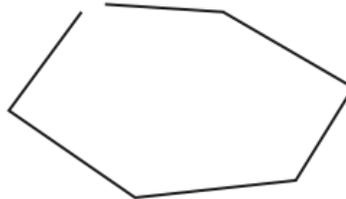
3)



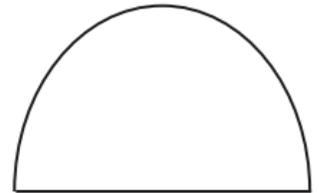
4)



5)



6)



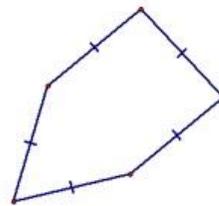
4. YES
5. NO (not closed)
6. NO (curved)

7. YES or NO: Is the polygon at right

YES \_\_\_\_\_ a. equilateral

NO \_\_\_\_\_ b. equiangular

NO \_\_\_\_\_ c. regular

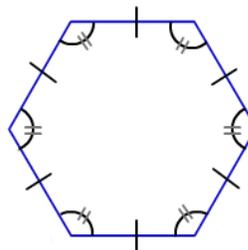


8. YES or NO: Is the polygon at right

YES \_\_\_\_\_ a. equilateral

YES \_\_\_\_\_ b. equiangular

YES \_\_\_\_\_ c. regular



9. YES or NO: Is the polygon at right

YES \_\_\_\_\_ a. equilateral

NO \_\_\_\_\_ b. equiangular

NO \_\_\_\_\_ c. regular

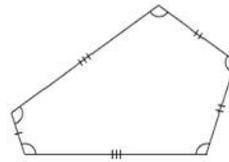


10. YES or NO: Is the polygon at right

NO \_\_\_\_\_ a. equilateral

YES \_\_\_\_\_ b. equiangular

NO \_\_\_\_\_ c. regular



11.

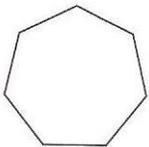
According to the Polygon Angle-Sum Theorem, what is the relationship between the number of sides of a polygon and the sum of the measures of the interior angles of a polygon?

$$(n - 2)180$$

_____ 12.	What is the sum of the angles in a nonagon?	$(9-2)180$	1260
_____ 13.	What is the sum of the angles in a 22-gon?	$(22-2)180$	3600
_____ 14.	What is the sum of the angles in a hexagon?	$(6-2)180$	720
_____ 15.	What is the sum of the angles in a 53-gon?	$(53-2)180$	9180

Find the measure of **one** interior angle of each of these **regular** polygons.

\_\_\_\_\_ 16.



$$(7-2)180 = 900$$

$$\text{Ans} \div 7 = 128.5714286$$

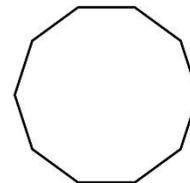
\_\_\_\_\_ 17.



$$(8-2) \cdot 180 = 1080$$

$$\text{Ans} \div 8 = 135$$

\_\_\_\_\_ 18.



$$(10-2)180 = 1440$$

$$\text{Ans} \div 10 = 144$$

\_\_\_\_\_ 19. A regular 15-gon

$$13 \cdot 180 \div 15 = 156$$

\_\_\_\_\_ 20. A regular 60-gon

$$58 \cdot 180 \div 60 = 174$$

\_\_\_\_\_ 21. A regular quadrilateral

$$2 \cdot 180 \div 4 = 90$$

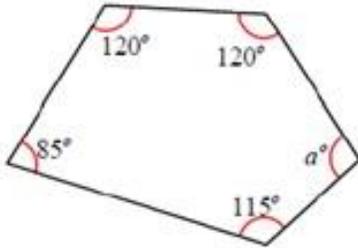
- \_\_\_\_\_ 22. A regular dodecagon
- \_\_\_\_\_ 23. A regular triangle
- \_\_\_\_\_ 24. A regular triangle  
(same problem as #23)

$$10 \cdot 180 / 12 = 150$$

$$1 \cdot 180 / 3 = 60$$

Find the missing angles.

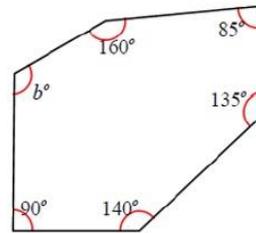
\_\_\_\_\_ 25.



$$(5-2) \cdot 180 = 540$$

$$\text{Ans} - 120 - 120 - 85 - 115 = 100$$

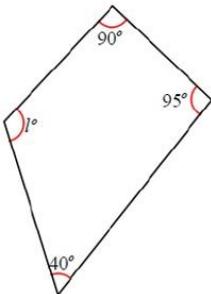
\_\_\_\_\_ 27.



$$(6-2) \cdot 180 = 720$$

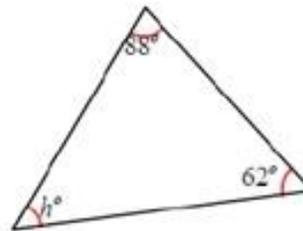
$$\text{Ans} - 90 - 140 - 135 - 85 - 160 = 110$$

\_\_\_\_\_ 26.



$$360 - 90 - 95 - 40 = 135$$

\_\_\_\_\_ 28.



$$180 - 88 - 62 = 30$$

Find the measure of an **exterior angle** of each of these regular polygons.

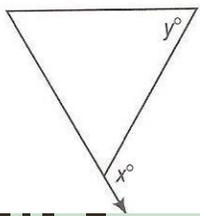
_____29.	Regular hexagon	$360/6$	60
_____30.	Regular hectagon (100-gon)	$360/100$	3.6
_____31.	Regular pentagon	$360/5$	72
_____32.	Regular icosagon (20-gon)	$360/20$	18
_____33.	Regular quadrilateral	$360/4$	90
_____34.	Regular octagon	$360/8$	45
_____35.	Regular 182-gon	$360/182$	1.978021978

Regular polygons are shown in the pictures below.  
Find the values of the angles shown.

36.

x = \_\_\_\_\_

y = \_\_\_\_\_



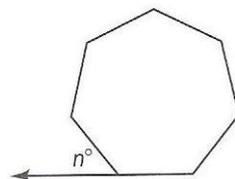
$$360/3$$

$$(3-2)*180/3$$

120
60

37.

n = \_\_\_\_\_



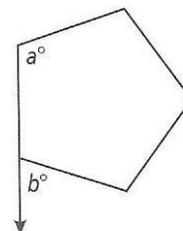
$$360/7$$

51.42857143
-------------

38.

a = \_\_\_\_\_

b = \_\_\_\_\_



$$(5-2)*180/5$$

$$360/5$$

108
72

Match the pictures below to the most specific name for each shape.

A. Parallelogram

B. Trapezoid

C. Isosceles Trapezoid

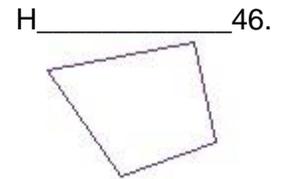
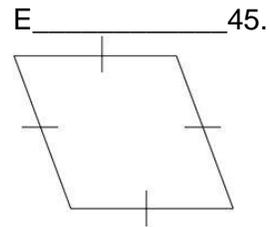
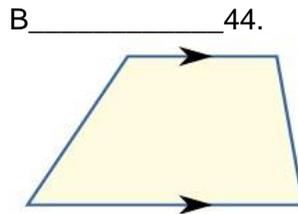
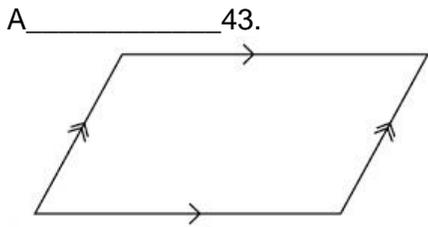
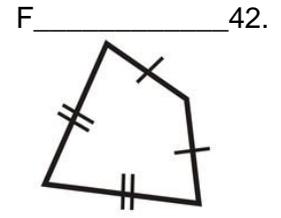
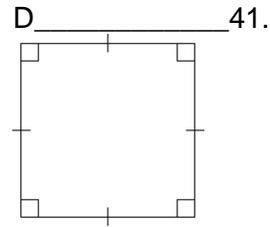
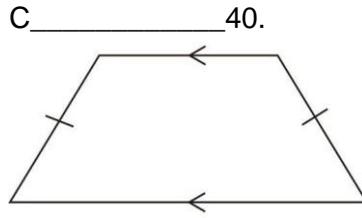
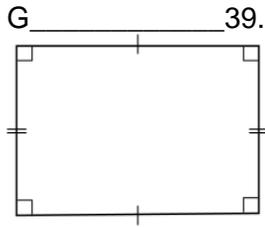
D. Square

E. Rhombus

F. Kite

G. Rectangle

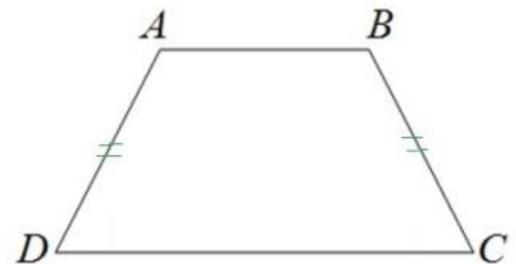
H. Quadrilateral



Use the shape at right for these questions.

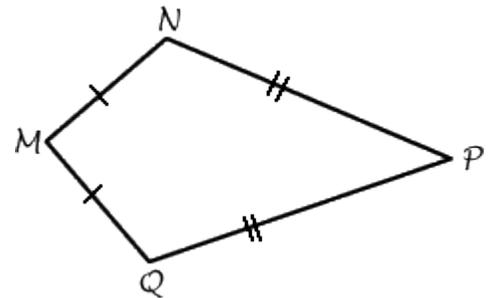
$\overline{AB}$  \_\_\_\_\_ and  $\overline{DC}$  \_\_\_\_\_ 47. Name the two **bases**.

$\overline{AD}$  \_\_\_\_\_ and  $\overline{BC}$  \_\_\_\_\_ 48. Name the two **legs**.



Use the shape at right for these questions.

$\angle M$  \_\_\_\_\_ and  $\angle P$  \_\_\_\_\_ 49. Name the two **vertex angles**.



ABCD is a parallelogram.

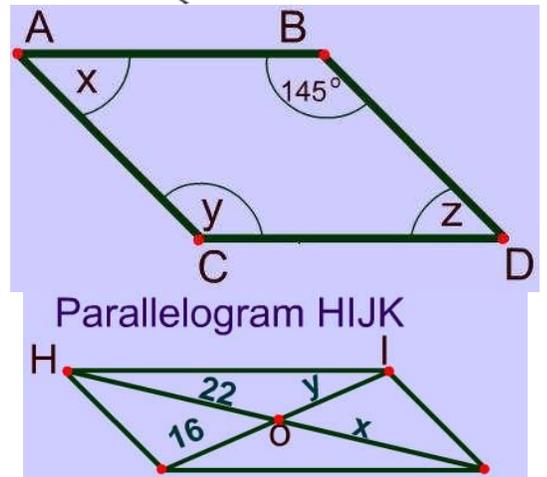
35 \_\_\_\_\_ 50. Find x. (180 - 145)

145 \_\_\_\_\_ 51. Find y. (same as the 145 given)

35 \_\_\_\_\_ 52. Find z. (180 - 145)

22 \_\_\_\_\_ 53. Find x in the picture at right.

16 \_\_\_\_\_ 54. Find y in the picture at right.



PQRS is a rhombus.

90 \_\_\_\_\_ 55. What is  $m\angle POQ$ ? (diagonals are  $\perp$ )

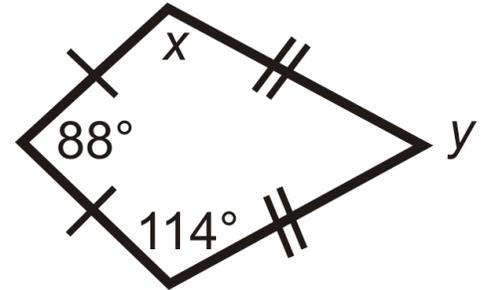
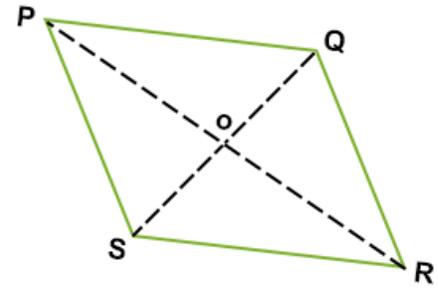
34 \_\_\_\_\_ 56. If  $PO = 17$ , what is  $PR$ ? ( $17 + 17$ )

70 \_\_\_\_\_ 57. If  $m\angle PSR = 140$ , what is  $m\angle PSQ$ ?  
( $140 \div 2$ )

114 \_\_\_\_\_ 58. Find  $x$  in the picture at right. (same)

\_\_\_\_\_ 59. Find  $y$  (the measure of an angle) in the picture at right.

360-114-88-114  
44

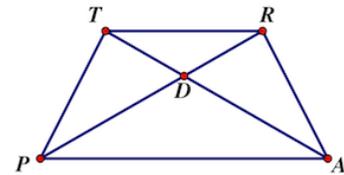


TRAP is an isosceles trapezoid.

5 \_\_\_\_\_ 60. If  $TD = 5$ , what is  $DR$ ?

12 \_\_\_\_\_ 61. If  $PR = 12$ , what is  $TA$ ?

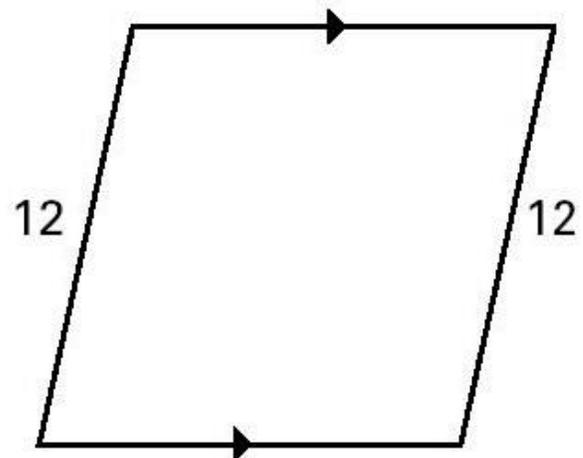
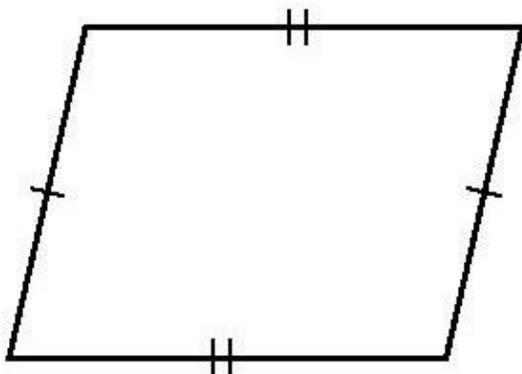
110 \_\_\_\_\_ 62. If  $m\angle PAR = 70$ , what is  $m\angle RTP$ ?  
( $180 - 70$ )



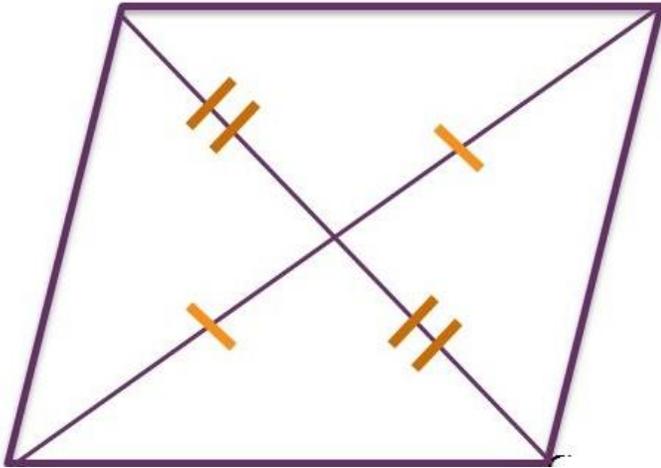
YES or NO: Is the information shown sufficient to prove these quadrilaterals are parallelograms?

YES \_\_\_\_\_ 63.  
(2 pairs of opposite sides are  $\cong$ )

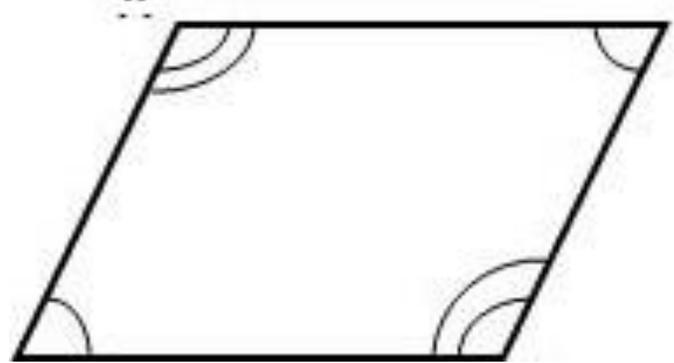
NO \_\_\_\_\_ 66.  
(It could be a trapezoid.)



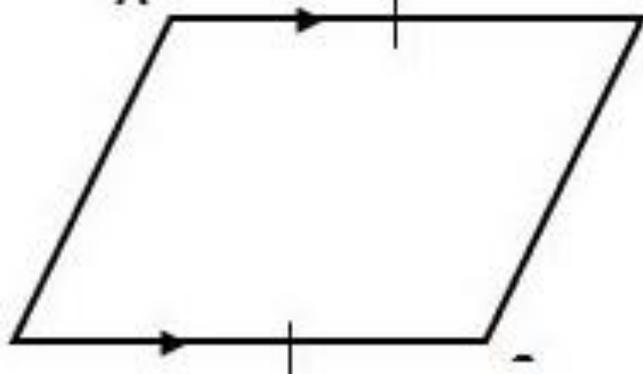
YES \_\_\_\_\_ 64.  
(Diagonals bisect each other)



YES \_\_\_\_\_ 67.  
(2 pairs of opposite angles  $\cong$ )



YES \_\_\_\_\_ 65.  
(Opposite sides both  $\cong$  and parallel)



NO \_\_\_\_\_ 68.  
(It could be a kite.)

