

Geometry Honors Unit 7 Test Review

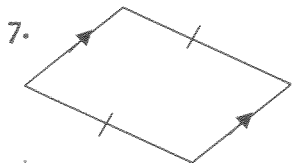
Name Master E

Date _____ Block _____

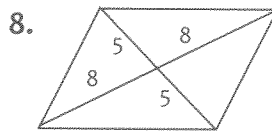
1-6: Fill in the missing cells below using your knowledge of the angles of a regular convex polygon.

Number of sides (n)	1. $n=10$	2. $n=12$	3. $n=8$	4. $n=5$	5. $n=32$	6. $n=4$
Polygon's Name	Decagon	Dodecagon	Octagon	Pentagon	32-gon	Quad.
Interior angle sum	1440	1800	1080	540	5400	360
Exterior angle sum	360	360	360	360	360	360
Each interior angle	144	150	135	108	168.75	90
Each exterior angle	36	30	45	72	11.25	90

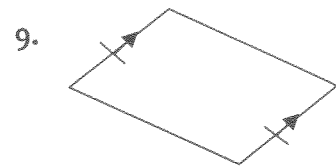
7-9: Determine if the quadrilateral is a parallelogram. State Yes or No and justify your answer.



No - it only has 1 pair of ll sides - it is an ISOS. trap.



Yes - the diagonals bisect each other



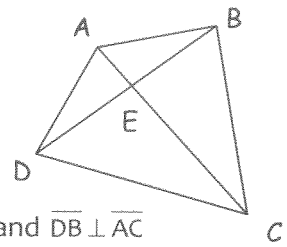
Yes - 1 pair of opp. sides are both \parallel & \cong parallel.

10-20: Write the letter of EVERY quadrilateral with given property. You can have more than one answer!

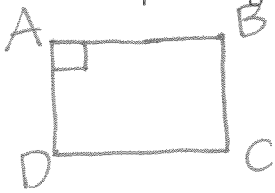
A. ISOSCELES TRAPEZOID	B. TRAPEZOID	C. SQUARE	D. RHOMBUS
E. RECTANGLE	F. PARALLELOGRAM	G. KITE	

- | | |
|--|-----------------------------|
| 10. Each diagonal bisects the opposite angles | 10. <u>C & D</u> |
| 11. The diagonals are congruent | 11. <u>A, C, & E</u> |
| 12. The diagonals bisect each other | 12. <u>C, D, E, & F</u> |
| 13. The diagonals are perpendicular | 13. <u>C, D, & G</u> |
| 14. Both pairs of opposite sides are congruent | 14. <u>C, D, E, & F</u> |
| 15. All angles are right angles | 15. <u>C & E</u> |
| 16. Exactly one pair of opposite sides is parallel | 16. <u>A & B</u> |
| 17. All sides are congruent | 17. <u>C & D</u> |
| 18. Both pairs of opposite sides are parallel | 18. <u>C, D, E, & F</u> |
| 19. A regular quadrilateral | 19. <u>C</u> |
| 20. Only 1 pair of opposite angles is congruent | 20. <u>G</u> |

21-26: Use the given information to draw quadrilateral ABCD to scale. Use your knowledge of quadrilaterals and their properties to give the BEST name to describe your quadrilateral.

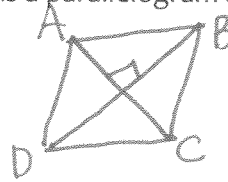


21. ABCD is a parallelogram and $m\angle DAB = 90^\circ$



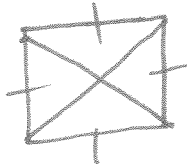
Rectangle

22. ABCD is a parallelogram and $\overline{DB} \perp \overline{AC}$



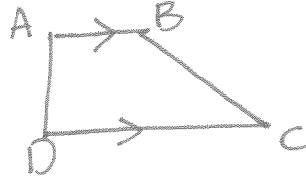
Rhombus

23. ABCD is a rhombus and $DB = AC$



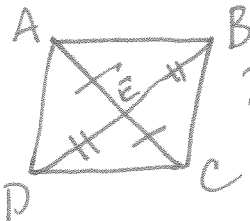
Square

24. $\overline{AB} \parallel \overline{DC}$, but \overline{DA} is not \parallel to \overline{BC}



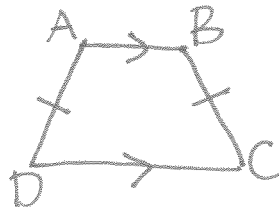
Trapezoid

25. $DE = EB, AE = EC$



Parallelogram

26. $\overline{AB} \parallel \overline{DC}$ and $AD = BC$



Isosceles Trapezoid

27-32: Use rhombus ROAD to find the measure of each. Fill in the picture with the measures first!

27. $m\angle 1 = 8$

28. $m\angle 2 = 8$

29. $m\angle 3 = 82$

30. $m\angle 4 = 82$

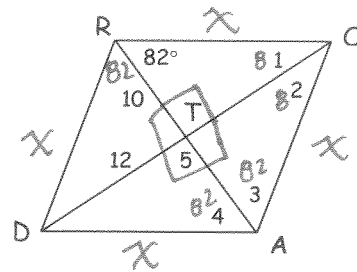
31. $m\angle 5 = 90$

32. $RO = 15.6$

$$10^2 + 12^2 = x^2$$

$$244 = x^2$$

$$x = \sqrt{244} \approx 15.6204$$



33-37: Use rectangle HAND to find the measure of each. Fill in the picture with the measures first!

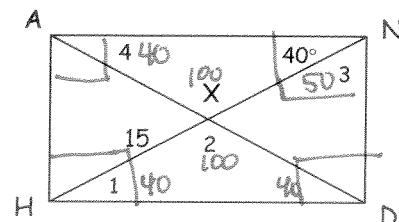
33. $m\angle 1 = 40$

34. $m\angle 2 = 100$

35. $m\angle 3 = 50$

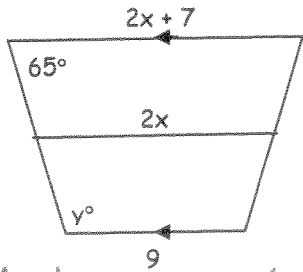
36. $m\angle 4 = 40$

37. $XD = 15$



38-46: Find the value of x (and y) in each picture. Show your work in the space below each picture.

38. $x = 8$, $y = 115$
 $2x$ is the midsegment



$$2M = b_1 + b_2$$

$$4x = 2x + 7 + 9$$

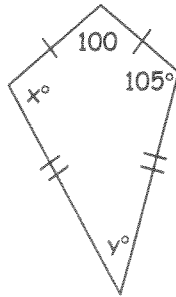
$$2x = 16$$

$$x = 8$$

$$65 + y = 180$$

$$y = 115$$

39. $x = 105$, $y = 50$



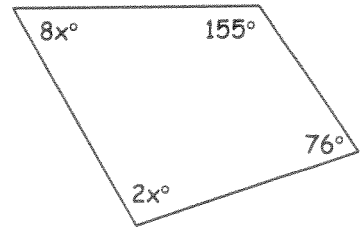
$$x + y + 100 + 105 = 360$$

$$105 + y + 205 = 360$$

$$y + 310 = 360$$

$$y = 50$$

40. $x = 12.9$



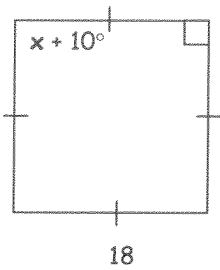
$$8x + 155 + 76 + 2x = 360$$

$$10x + 231 = 360$$

$$10x = 129$$

$$x = 12.9$$

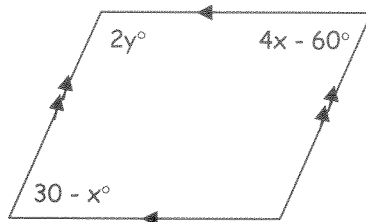
41. $x = 80$



$$x + 10 = 90$$

$$x = 80$$

42. $x = 18$, $y = 84$



$$30 - x = 4x - 60$$

$$90 = 5x$$

$$x = 18$$

$$2y + 30 - x = 180$$

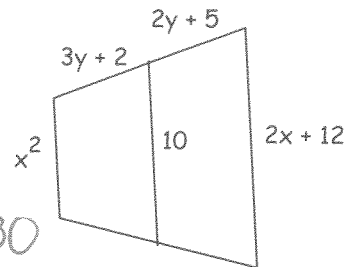
$$2y + 30 - 18 = 180$$

$$2y + 12 = 180$$

$$2y = 168$$

$$y = 84$$

43. $x = 2$ or -4 , $y = 3$
 10 is the midsegment



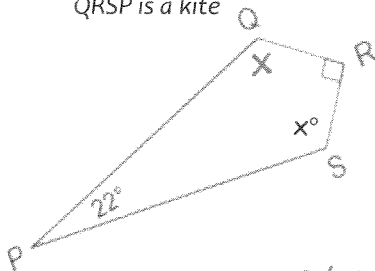
$$20 = x^2 + 2x + 12$$

$$x^2 + 2x - 8 = 0$$

$$(x+4)(x-2) = 0$$

$$x = -4, 2$$

44. $x = 124$
 $QRSP$ is a kite



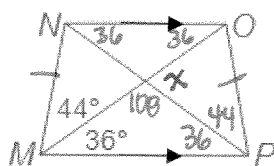
$$2x + 90 + 22 = 360$$

$$2x + 112 = 360$$

$$2x = 248$$

$$x = 124$$

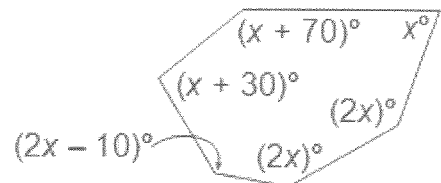
45. $x = 72$
 $MNOP$ is isosceles



$$108 + x = 180$$

$$x = 72$$

46. $x = 70$



$$x + 70 + x + 2x + 2x + 2x - 10 + x + 30 = 720$$

$$9x + 90 = 720$$

$$9x = 630$$

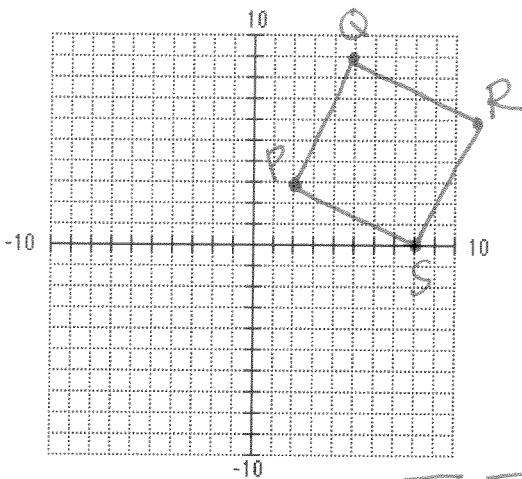
$$x = 70$$

47-52: Write True or False for each statement.

- True 47. A rectangle is always a parallelogram.
- True 48. The diagonals of a rhombus are always perpendicular.
- True 49. The diagonals of a square always bisect each other.
- False 50. A trapezoid always has two congruent sides.
- True 51. The midsegment of a trapezoid is always parallel to the bases.
- False 52. If the diagonals of a parallelogram are perpendicular, then it is a rectangle.

53-54: Graph quadrilateral PQRS on the given graph. Use slope, distance, and/or midpoint to determine the most specific name for your quadrilateral. You must neatly show your work, with proper labeling and detail, to justify your answer. The graph is not considered work!

53. P(2,3), Q(5,9), R(11,6), S(8,0)



$$PQ = \sqrt{(5-2)^2 + (9-3)^2} = \sqrt{(3)^2 + (6)^2} = \sqrt{45}$$

$$QR = \sqrt{(11-5)^2 + (6-9)^2} = \sqrt{(6)^2 + (-3)^2} = \sqrt{45}$$

$$RS = \sqrt{(8-11)^2 + (0-6)^2} = \sqrt{(-3)^2 + (-6)^2} = \sqrt{45}$$

$$PS = \sqrt{(8-2)^2 + (0-3)^2} = \sqrt{(6)^2 + (-3)^2} = \sqrt{45}$$

PQRS is a rhombus b/c all sides are \cong

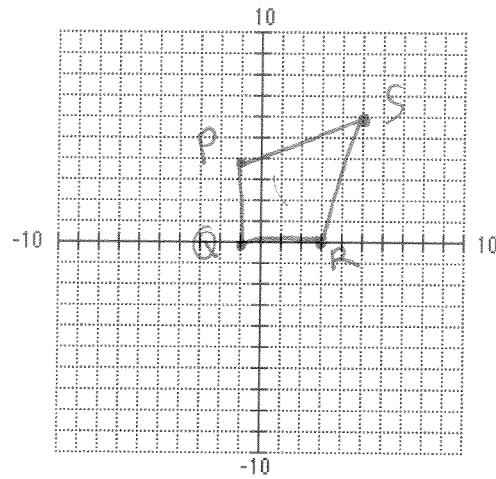
$$\text{slope of } \overline{PQ} = \frac{9-3}{5-2} = \frac{6}{3} = 2$$

$$\text{slope of } \overline{QR} = \frac{6-9}{11-5} = \frac{-3}{6} = -\frac{1}{2}$$

$\overline{PQ} \perp \overline{QR}$ means PQRS is a

square b/c \perp lines form a rt. \angle and a rhombus w/ a rt. \angle is a square.

54. P(-1,4), Q(-1,0), R(3,0), S(5,6)



$$PQ = 4$$

$$QR = 4$$

$$RS = \sqrt{(5-3)^2 + (6-0)^2} = \sqrt{(2)^2 + (6)^2} = \sqrt{40}$$

$$PS = \sqrt{(5-(-1))^2 + (6-4)^2} = \sqrt{(6)^2 + (2)^2} = \sqrt{40}$$

PQRS is a Kite because it has 2 sets of \cong consecutive sides.