Quadrilateral Practice

Directions: In #1-5 find all of the missing angles.



Parallelogram

1. Given that m<1 = 15° and m<3 = 85° for the parallelogram, find the following angles:

m<2 = \_\_\_\_\_\_\_\_\_\_\_\_\_ m<4 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<5 = \_\_\_\_\_\_\_\_\_\_\_\_\_ m<6 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



2. Given that m<1 = 20° and m<4 = 40° for the rectangle, find the following angles:

Rectangle

m<2 = \_\_\_\_\_\_\_\_\_ m<3 = \_\_\_\_\_\_\_\_\_\_\_\_

m<5 = \_\_\_\_\_\_\_\_\_ m<6 = \_\_\_\_\_\_\_\_\_\_\_\_

m<7 = \_\_\_\_\_\_\_\_\_ m<8 = \_\_\_\_\_\_\_\_\_\_\_\_

m<9 = \_\_\_\_\_\_\_\_\_ m<10 = \_\_\_\_\_\_\_\_\_\_\_

m<11 = \_\_\_\_\_\_\_\_\_

3. Given that the shape is a square, find the following angles:

Square

m<1 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m<3 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<4 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m<5 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<6 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m<7 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<8 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m<9 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<10 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ m<11 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Given the m<9 = 30° for the rhombus, find the following angles:

Rhombus

m<1 = \_\_\_\_\_\_\_\_\_\_\_\_ m<2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<3 = \_\_\_\_\_\_\_\_\_\_\_\_ m<4 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<5 = \_\_\_\_\_\_\_\_\_\_\_\_ m<6 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<7 = \_\_\_\_\_\_\_\_\_\_\_\_ m<8 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<10 = \_\_\_\_\_\_\_\_\_\_\_ m<11 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

m<12 = \_\_\_\_\_\_\_\_\_\_\_

Isosceles Trapezoid

5. Given m<7 = 53° for the isosceles trapezoid, find the following angle measures:

m<1 = \_\_\_\_\_\_\_\_\_\_\_\_

m<2 = \_\_\_\_\_\_\_\_\_\_\_\_

m<3 = \_\_\_\_\_\_\_\_\_\_\_\_

m<4 = \_\_\_\_\_\_\_\_\_\_\_\_

m<9 = \_\_\_\_\_\_\_\_\_\_\_\_

**Identifying Properties: In problems 6-13 below, list the letters of the quarilaterals that the properties hold true for:
 a) Parallelogram b) Rectangle c) Rhombus d) Square**

6. Diagonals bisect each other. 7. All <’s are right <’s

8. All sides are congruent. 9. Opposite sides are congruent.

10. Opposite angles are congruent. 11. Diagonals are congruent.

12. Diagonals are perpendicular. 13. Opposite sides are parallel.

**Directions: Find the missing angle measure or variable. Show all work! Justify your set ups!**

14. ABCD is a rhombus. If m<8=35°, 15. ABCD is a rectangle. If m<1=20° find the

Find the measure of <1, <2, <3, <4, measures of <2, <3, <4, <5, <6.

<5, <6, <7.



16. ABCD is a square. If AC=16in and 17. ABCD is a parallelogram. AR= 2x+ 3,

BD = 2x + 4, find x. RC= 35, BR= 4y – 10, DR= 90. Find x and y.



R

C

19.

18.

27.



20. Find x in the parallelogram. 21. Find x in the parallelogram.



22. Find x in the parallelogram. 23.



22. ACT QUESTION!

24. **Write geometric statement along with the correct justification for parallelogram ABCD**.

a.) AB \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b.) <ABC \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c.) EA \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d.) BC // \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e.) <BAD \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f.) <BEA \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

g.) <BCA \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

h.) <BCD + < \_\_\_\_\_ = 180 because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

25. **Use rhombus PLAN to write the correct geometric statement (if needed) and justification**.

a.) AL PL because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b.) <NEA = 90 because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c.) EA \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d.) NA // \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e.) <NPE \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f.) <PLA \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

g.) <LNA \_\_\_\_\_\_\_\_\_\_ because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

h.) <LEA = 90 because :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_