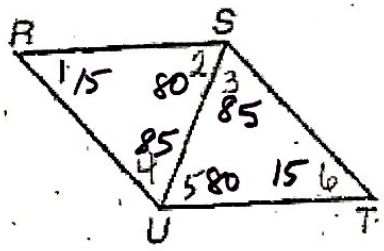
Name: _____ Hour: _____

What Is The Angle Measure? and More Review

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 = 80° m<4 = 85°

m<5 = 80° m<6 = 15°

Rectangle

2. Given that m<1 = 35 and for the rectangle, find the following angles:

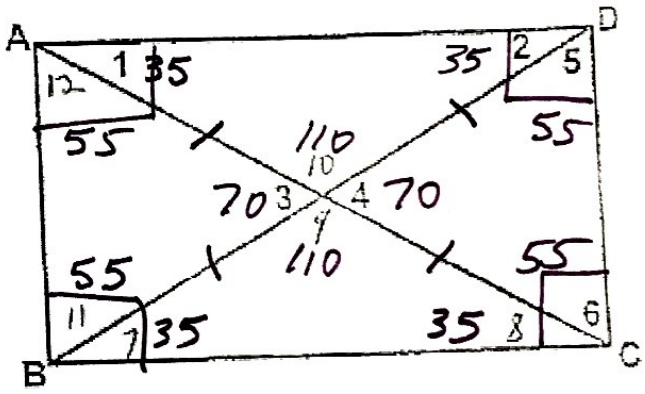
m<2 = 35° m<3 = 70°

m<5 = 55° m<6 = 55°

m<7 = 35° m<8 = 35°

m<9 = 110° m<10 = 110°

m<11 = 55° m<12 = 55°



Rhombus

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

m<1 = 90° m<2 = 90°

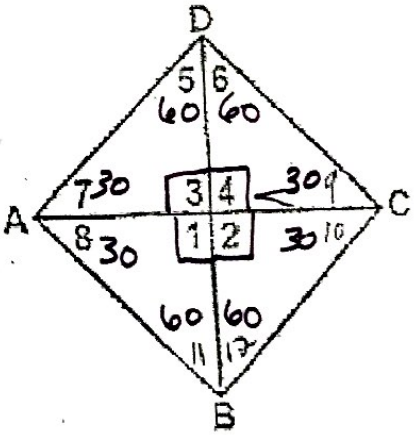
m<3 = 90° m<4 = 90°

m<5 = 60° m<6 = 60°

m<7 = 30° m<8 = 30°

m<10 = 30° m<11 = 60°

m<12 = 60°



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

Square

m<1 = 45°

m<2 = 45°

m<3 = 45°

m<4 = 45°

m<5 = 90°

m<6 = 45°

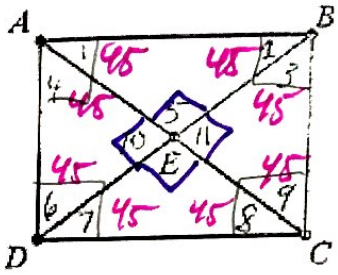
m<7 = 45°

m<8 = 45°

m<9 = 45°

m<10 = 90°

m<11 = 90°



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.

a, b, c, d

7. All <'s are right <'s

b, d

8. All sides are congruent.

c, d

9. Opposite sides are congruent.

a, b, c, d

10. Opposite angles are congruent.

a, b, c, d

11. Diagonals are congruent.

b, d

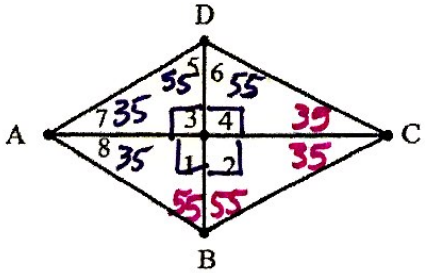
12. Diagonals are perpendicular.

c, d

13. Opposite sides are parallel.

a, b, c, d

14. ABCD is a rhombus. If m<8=35°, Find the measure of <1, <2, <3, <4, <5, <6, <7.



∠1 = 90°

∠2 = 90°

∠3 = 90°

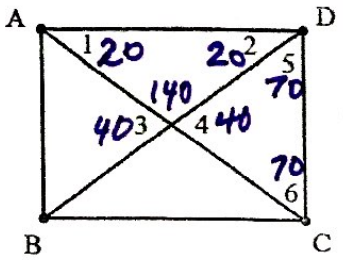
∠4 = 90°

∠5 = 55°

∠6 = 55°

∠7 = 35°

15. ABCD is a rectangle. If m<1=20° find the measures of <2, <3, <4, <5, <6.



∠2 = 20°

∠3 = 40°

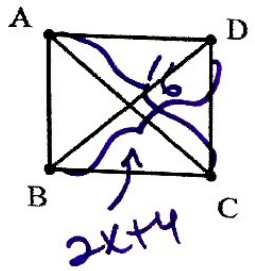
∠4 = 40°

∠5 = 70°

∠6 = 70°

Diags ≅ !

16. ABCD is a square. If AC=16in and BD = 2x + 4, find x.



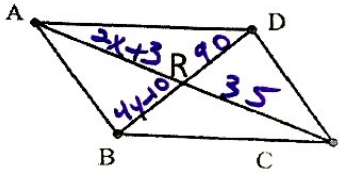
$2x+4=16$

$2x=12$

$x=6$

Diag's bisect each other!

17. ABCD is a parallelogram. AR= 2x+ 3, RC= 35, BR= 4y – 10, DR= 90. Find x and y.



$2x+3=35$

$2x=32$

$x=16$

$4y-10=90$

$4y=100$

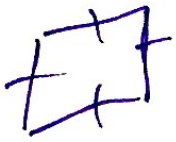
$y=25$

23. ACT QUESTION!

Each side of a quadrilateral is 12 cm long. Which 2 of the following *must* also describe this quadrilateral?

I. Square (sides of equal length and 90° angles)
II. Rhombus (sides of equal length) ✓
III. Rectangle (90° angles)
IV. Parallelogram (opposite sides parallel) ✓

A. I and II only
B. I and III only
C. II and III only
D. II and IV only
E. III and IV only



24. ACT QUESTION!

In $\triangle XYZ$, $\overline{XY} \cong \overline{XZ}$ and the measure of $\angle Y$ is 22°. What is the measure of $\angle X$?

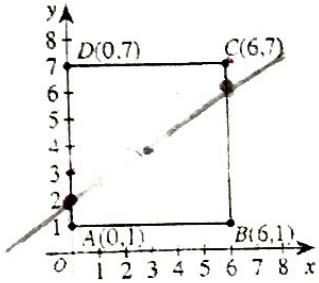
A. 136°
B. 79°
C. 68°
D. 44°
E. 22°

180
−44

★ 25. ACT QUESTION!

Square *ABCD* is shown below in the standard (x,y) coordinate plane. The line $y = ax + 2$ divides the square into 2 congruent regions if $a =$?

A. $\frac{2}{3}$
B. $\frac{1}{6}$
C. $\frac{5}{6}$
D. $\frac{6}{7}$
E. 1

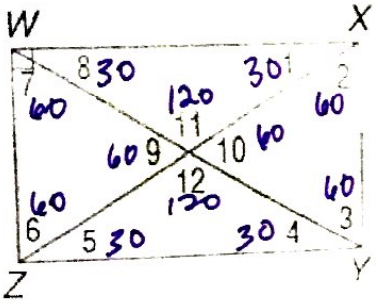


WXYZ is a rectangle. Find each measure if $m\angle 1 = 30$.

13. $m\angle 2$ 60° **14.** $m\angle 3$ 60° **15.** $m\angle 4$ 30°

16. $m\angle 5$ 30° **17.** $m\angle 6$ 60° **18.** $m\angle 7$ 60°

19. $m\angle 8$ 30° **20.** $m\angle 9$ 60° **21.** $m\angle 12$ 120°



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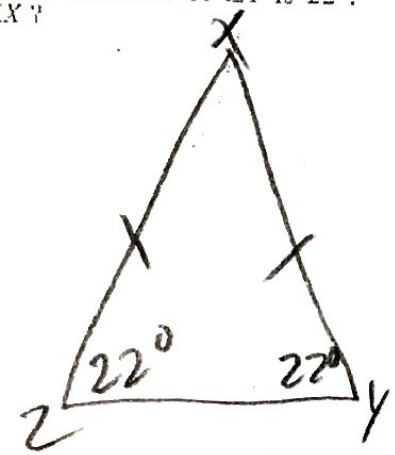
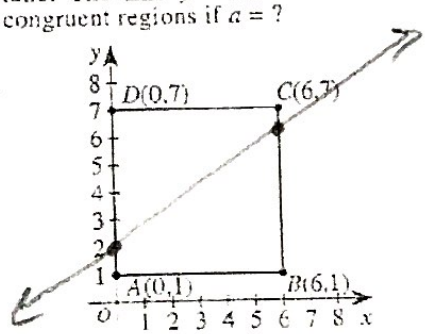


25. ACT QUESTION!

Square $ABCD$ is shown below in the standard (x,y) coordinate plane. The line $y = ax + 2$ divides the square into 2 congruent regions if $a = ?$

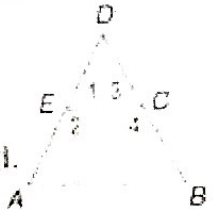
A. $\frac{2}{3}$
B. $\frac{1}{6}$
C. $\frac{5}{6}$
D. $\frac{6}{7}$
E. 1



26. **Fill in the missing portions of the proof.**

1. **Given:** E and C are midpoints of $\overline{AD}$ and $\overline{DB}$; $\overline{AD} \cong \overline{DB}$ and $\angle A \cong \angle 1$.

Prove: $ABCE$ is an isosceles trapezoid.



E + C are midpts

1. $\overline{AD} \cong \overline{DB}$, $\angle A \cong \angle 1$	1. Given
2. ΔADB is isosceles	2. def of isos. Δ
3. $\angle A \cong \angle B$	3. base $\angle$s of isos. $\Delta \cong$
4. $\angle A \cong \angle 1$	4. Given
5. $\overline{EC} \parallel \overline{AB}$	5. corresp. $\angle$s $\cong \Rightarrow \parallel$
6. $\frac{1}{2}AD = \frac{1}{2}DB$	6. Multiplication
7. $AE = \frac{1}{2}AD$, $BC = \frac{1}{2}BD$	7. def of midpoint
8. $AE = BC$	8. substitution
9. $ABCE$ is Isos. Trap.	9. def. of Isos. Trap.