Chapter 6 Review

Name Key

Use your Quadrilateral Flowchart, flashcards, and notes to help you.

1. Every square is a Rectangle and a Rhombus.

2. Every Rectangle and Rhombus is a parallelogram. (& square)

3. Every parallelogram, kite, and trapezoid is a quadrilateral.

4. All polygons that are convex have a sum of exterior angles equal to 360°.

5. All convex polygons have a sum of interior angles equal to $S = 180(n-2)$ (this is an equation).

6. The measure of an **interior angle** of a polygon is **135 degrees**. How many sides does the polygon have?

135 / 45°

180 − 135 = 45° each Exterior

$\frac{360}{45} = 8$

7. A regular, convex polygon has 52 sides. What is the measure of an exterior angle?

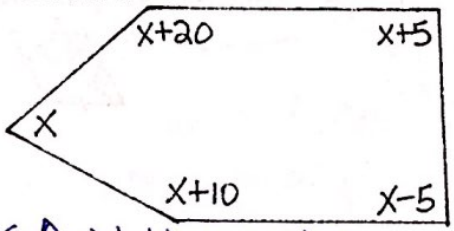
$\frac{360}{52} = 6.9°$

8. A regular, convex polygon has 22 sides. What is the measure of 1 interior and 1 exterior angle.

Exterior $\frac{360}{22} = 16.4°$ (22 sides)

Interior 180 − 16.4 = 163.6°

9. Find x



180(n−2)
180(5−2)
540° total

X+20
X+5
X+10
X−5
+ X
5X+30 = 540

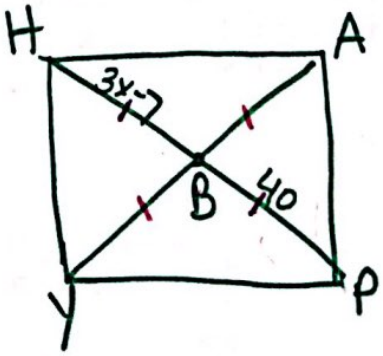
X = 102

* Add the angles and = to 540

10. Name all the quadrilaterals that are Parallelograms.

Rectangle
Rhombus
Square

11. The diagonals of square HAPY intersect at point B. If HB = 3x-7 and BP = 40 find x. Round to tenths place. Find m<PAH. Find m<BAP. Find m<PBY.

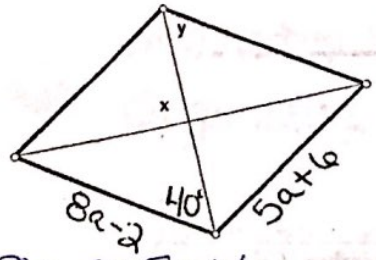


3x − 7 = 40

15.7

m<PAH = 90°
m<BAP = 45°
m<PBY = 90°

1. RHOMBUS



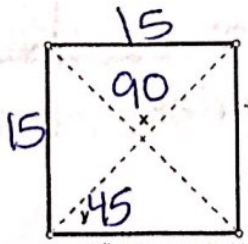
$8a-2=5a+6$
$-5a+2 \quad -5a+2$

$\frac{3a}{3}=\frac{8}{3}$

$a=2.7$

$a=$	2.7
$x=$	90°
$y=$	40
Perimeter:	10.67

2. SQUARE with Perimeter $\frac{60in}{4}$



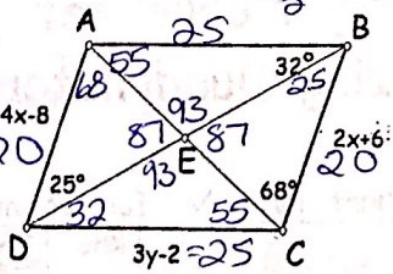
$7b-13=15$
$+13 \quad +13$
$7b=28$
$b=4$

$2a+5=15$
$-5 \quad -5$
$\frac{2a}{2}=\frac{10}{2}$

$a=5$

$a=$	5
$b=$	4
$x=$	90
$y=$	45

3. PARALLELOGRAM with Perimeter $= 90-40=\frac{50}{2}$

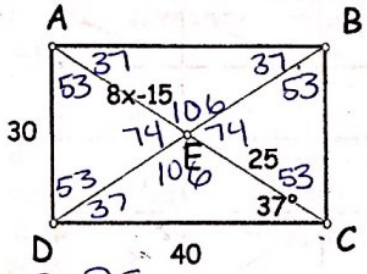


$4x-8=2x+6$
$-2x+8 \quad -2x+8$
$2x=14$
$x=7$

$3y-2=25$
$+2 \quad +2$
$3y=27$
$y=9$

$x=$	7
$y=$	9
$m\angle AED=$	87°
$m\angle ADC=$	57°
$m\angle ACD=$	55°

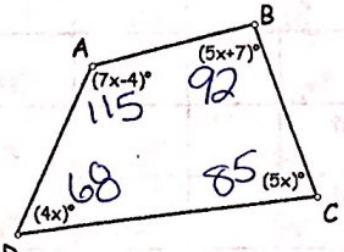
4. RECTANGLE



$8x-15=25$
$+15 \quad +15$
$\frac{8x}{8}=\frac{40}{8}$
$x=5$

$x=$	5
$AC=$	50
$BD=$	50
$m\angle AEB=$	106°
$m\angle CAD=$	53°
$m\angle AED=$	74°

QUADRILATERAL

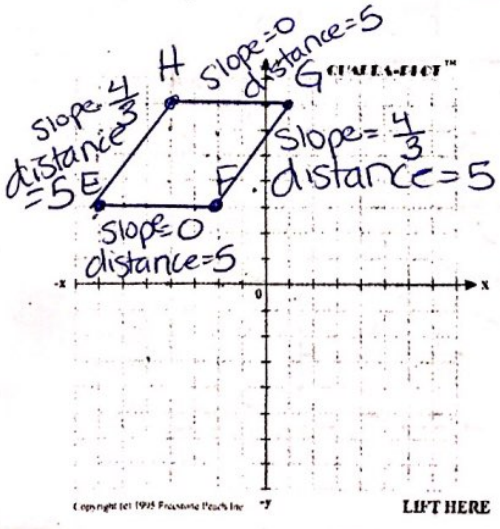


$7x-4+5x+7+4x+5x=360$
$21x+3=360$
$-3 \quad -3$
$21x=357$
$x=17$

$x=$	17
$m\angle A=$	115°
$m\angle B=$	92°
$m\angle C=$	85°
$m\angle D=$	68°

6) Given the vertices, determine whether $\square EFGH$ is a rhombus, a rectangle, or a square.

$E(-7,3)$ $F(-2,3)$ $G(1,7)$ $H(-4,7)$



FG distance $=\sqrt{(-2-1)^2+(3-7)^2}$

$\sqrt{(-3)^2+(-4)^2}$

$\sqrt{9+16}$

$\sqrt{25}$

5

Rhombus

Geometry Worksheet Name: _____
Organizing Quadrilateral properties

Fill in the chart. Put a ✓ for yes and a ✗ for no.

Property	Kite	Trape -zoid	Isos. Trape -zoid	P-gram	Rectangle	Rhombus	Square
1. Diagonals are congruent.	✗	✗	✓	✗	✓	✗	✓
2. Figure is equilateral.	✗	✗	✗	✗	✗	✓	✓
3. Figure is equiangular.	✗	✗	✗	✗	✓	✗	✓
4. Diagonals are perpendicular bisectors of each other.	✗	✗	✗	✗	✗	✓	✓
5. Figure is a regular polygon.	✗	✗	✗	✗	✗	✗	✓
6. Consecutive angles are supplementary.	✗	✗	✗	✓	✓	✓	✓
7. Diagonals form 4 congruent triangles.	✗	✗	✗	✗	✗	✓	✓
8. Diagonals form two pairs of congruent isosceles triangles.	✗	✗	✗	✗	✗	✓	✓
9. Exactly one pair of opposite sides parallel.	✗	✓	✓	✗	✗	✗	✗
10. Only one pair of opposite angles congruent.	✓	✗	✗	✗	✗	✗	✗
11. Diagonals are perpendicular to each other.	✓	✗	✗	✗	✗	✓	✓
12. Both diagonals bisect their respective interior angles.	✗	✗	✗	✗	✗	✓	✓
13. Diagonals bisect each other.	✗	✗	✗	✓	✓	✓	✓
14. Only one diagonal is bisected.	✓	✗	✗	✗	✗	✗	✗
15. Only one diagonal bisects a pair of interior angles.	✓	✗	✗	✗	✗	✗	✗
16. Opposite sides are congruent.	✗	✗	✗	✓	✓	✓	✓
17. Diagonals form four 45-45-90 triangles.	✗	✗	✗	✗	✗	✗	✓
18. Figure is a quadrilateral.	✓	✓	✓	✓	✓	✓	✓
19. Interior angle sum is 360 degrees.	✓	✓	✓	✓	✓	✓	✓
20. Exterior angle sum is 360 degrees.	✓	✓	✓	✓	✓	✓	✓