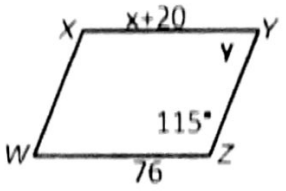
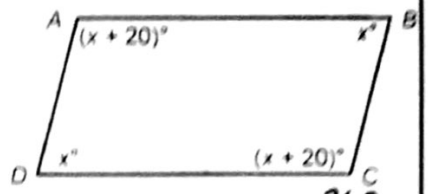
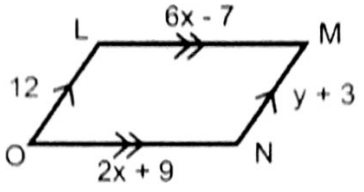
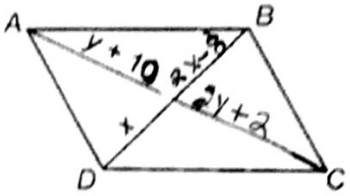
Name: _____ Date: _____

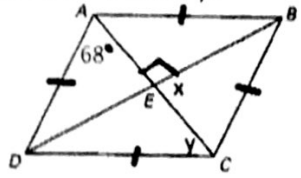
Use the following to review for you test. **Show your work on a separate sheet of paper if needed.**

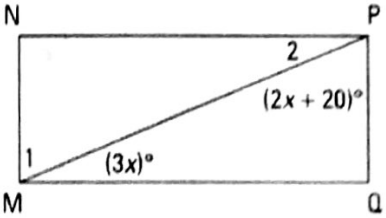
<table>
<tr><th>Things to Know</th><th>Things to Remember</th><th colspan="2">Examples</th></tr>
<tr><td rowspan="2">Properties of Parallelograms</td><td rowspan="2">• Opposites angles are congruent
• Consecutive angles are supplementary
• Opposite sides are equal
• Diagonals bisect each other</td><td>1. Find x and y.
 

$x+20=76$ $y+115=180$
$x=56$ $y=65$</td><td>2. ABCD is a parallelogram. Find x.
 

$x+20+x+x+20+x=360$
$4x+40=360$
$4x=320$
$x=80°$</td></tr>
<tr><td>3. Find x and y.
 

$6x-7=2x+9$ $12=y+3$
$4x=16$ $9=y$
$x=4$</td><td>4. Find x and y.
 

$x=2x-8$ $y+10=2y+2$
$8=x$ $8=y$</td></tr>
<tr><td>Special Parallelograms</td><td>• A rectangle is a parallelogram with 4 right angles,
• A rhombus is a parallelogram with 4 congruent sides.
• A square is a rectangle and rhombus</td><td>5. Find x and y.
 

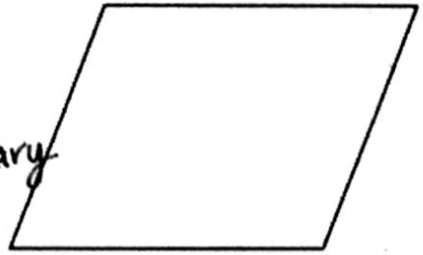
$X=90°$ $y=68°$
opposite ∠'s are ≅ and diag. bisect</td><td>6. NPQM is a rectange. Find x and angles 1 & 2.
 

$3x+2x+20+90=180$
$5x+110=180$
$5x=70$ $x=14$
$\angle 1+3(14)=90$
$\boxed{\angle 1=48°}$
$\angle 2+2x+20=90$
$\angle 2+28+20=90$
$\boxed{\angle 2=42°}$</td></tr>
</table>

Quadrilaterals are polygons with 4 sides.

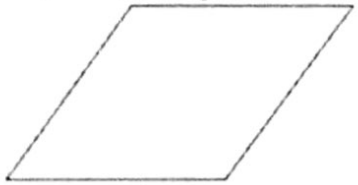
Parallelogram

- Opposite sides are parallel
- Opposite sides are congruent
- Opposite angles are congruent
- Consecutive angles are supplementary
- Diagonals bisect each other.



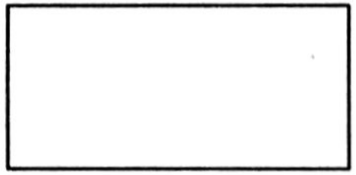
Rhombus

- **ALL** of the properties of a parallelogram **PLUS:**
- All sides are congruent
- Diagonals are perpendicular
- Diagonals bisect angles



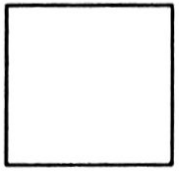
Rectangle

- **ALL** of the properties of a parallelogram **PLUS**
- Has four right angles
- Diagonals are congruent



Square

- ALL properties of parallelogram, ~~square~~, & rectangle rhombus



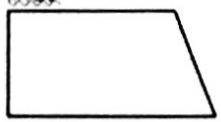
Other Quadrilaterals

Kite

- Diagonals are perpendicular
- One pair of angles are congruent
- consecutive sides are ≅

Trapezoid

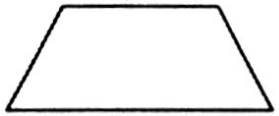
One pair of parallel lines



Isosceles Trapezoid

Base angles are congruent

One pair of parallel lines



Determine whether the statement is *always*, *sometimes*, or *never* true.

1. A rectangle is a parallelogram. always
2. A parallelogram is a rhombus. sometimes
3. A square is a rhombus. always
4. A rhombus is a square. sometimes
5. A rhombus is a rectangle. never
6. A rectangle is a square sometimes
7. A quadrilateral is a rhombus sometimes
8. A parallelogram is a quadrilateral always
9. A trapezoid is a parallelogram never
10. A kite is a quadrilateral always

State all possible names for each quadrilateral property.
Choose from:

Quadrilateral	**Parallelogram**	**Rectangle**
Rhombus	**Square**	**Trapezoid**
Kite	**Isosceles Trapezoid**	

1. Both pairs of opposite sides are parallel. Parallelogram, rectangle, square,
2. One pair of opposite sides are parallel. Trapezoid, isosceles trap.,
3. Both pairs of opposite sides are congruent. Parallelogram, rectangle, square,
4. Diagonals are not congruent. Parallelogram, rhombus, kite, trapezoid, quadrilate
5. All angles are congruent. square, rectangle
6. All angles are right angles. square, rectangle
7. Diagonals are congruent. square, rectangle, isosceles trapezoid
8. Diagonals are not congruent. rhombus, kite, trapezoid
9. All sides are congruent. square, rhombus
10. Congruent consecutive sides. kite