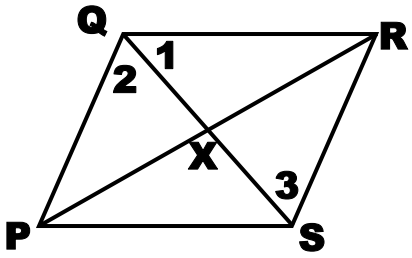
NAME_____**DATE**_____**PER.**____

Review #11: QUADRILATERALS

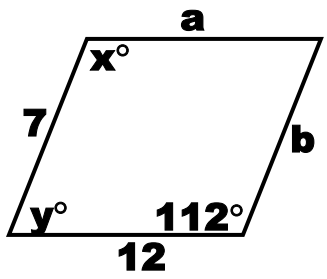
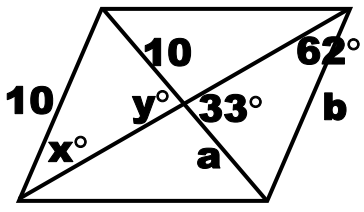
PART 1: PARALLELOGRAMS

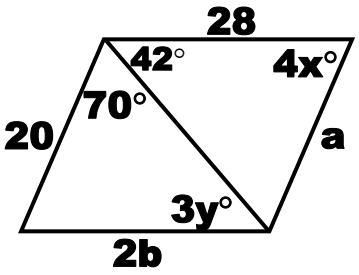
Use parallelogram PQRS below to complete the following statements.



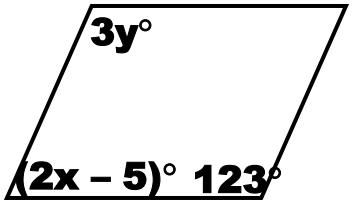
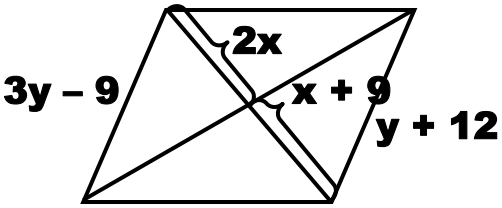
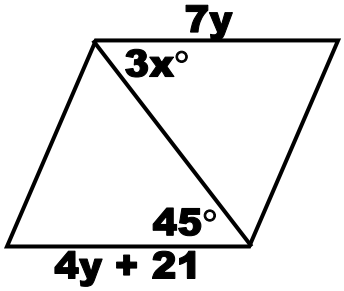
_____1.	If PS = 5, then QR =?
_____2.	If PR = 20, then PX =?
_____3.	If m∠QPS = 125°, then m∠QRS =?
_____4.	If m∠QPS = 125°, then m∠PQR =?
_____5.	If m∠QPS = 125°, then m∠PSR =?
_____6. _____	If m∠1 = 27° and m∠2 = 30°, then m∠3 =? and m∠PSR =?

In exercises #7 – 9, each quadrilateral is a parallelogram. Find the indicated values.

7. a = _____ b = _____ x = _____ y = _____	
8. a = _____ b = _____ x = _____ y = _____	

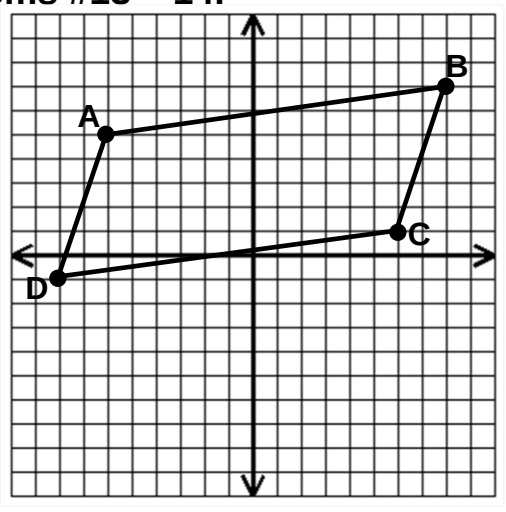
9. a = _____ b = _____ x = _____ y = _____	

In exercises #10 – 12, what values must 'x' and 'y' have to make each quadrilateral a parallelogram?

10. x = _____ y = _____	
11. x = _____ y = _____	
12. x = _____ y = _____	

Use the quadrilateral on the grid below for problems #13 – 14.

13. _____	Determine what kind of quadrilateral ABCD is and justify your answer.

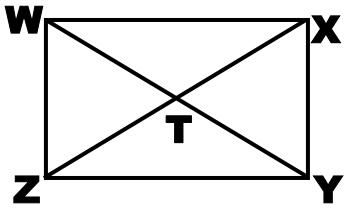


14. _____	Find an exact value for BC (a radical, not a decimal).

PART 2: RECTANGLES

Quadrilateral WXYZ is a rectangle. Use this rectangle for problems 15 – 17.

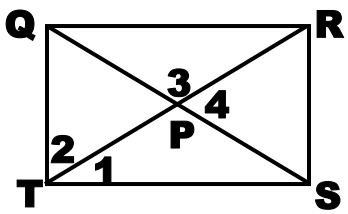
_____15.	If WY = 19, then ZX =?
_____16.	If WY = 19, then WT =?
_____17.	If TX = 4.5, then WY =?



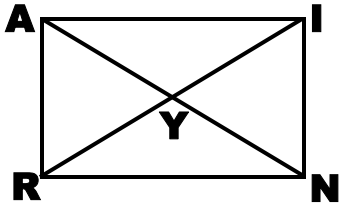
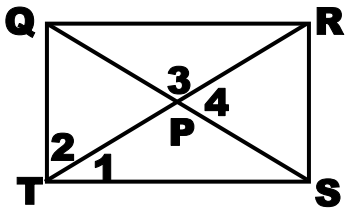
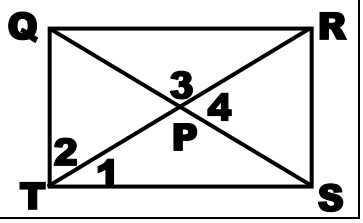
_____18.	Rectangle GALS has diagonals $\overline{GL}$ and $\overline{AS}$. If GL = 3a + 6 and AS = 5a – 18, find GL.
_____19. _____	Rectangle BOYS has diagonals $\overline{BY}$ and $\overline{OS}$, which intersect at X. If m∠XOB = 70°, then m∠YSO = ? and m∠BSO = ?

Use rectangle QRST and the given information to solve problems 20 – 21.

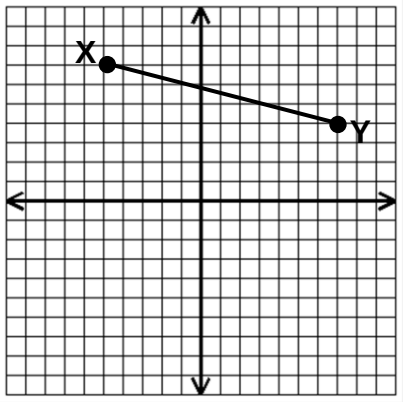
_____20.	QP = 6, find RT.
_____21.	QT = 8, find RS.



Solve each of the following.

_____22.	In rectangle RAIN below, YR = 3x and NY = 18, find 'x'. 
_____23.	m∠1 = 55°, find m∠2. 
_____24.	m∠3 = 110°, find m∠4. 

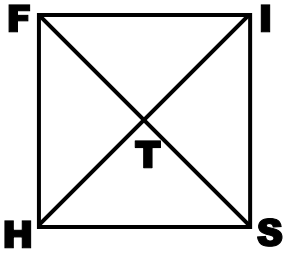
$\overline{XY}$ is the side of a rectangle. Use the diagram for probl



_____25.	Find the slope of the line containing the adjacent side passing through X.
_____26.	What is the slope of the adjacent side through Y?
_____27.	What is the slope of the line containing the side opposite $\overline{XY}$?

PART 3: SQUARES & RHOMBI

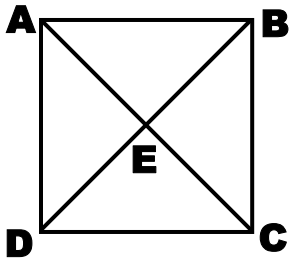
Find the indicated measure.

_____28.	FISH is a square with IT = 6. Find FS. 

_____29.	If MNOP is a square, what is m∠MNP?

Use square ABCD and the given information for problems 30 – 32.

_____30.	If m∠AEB = (3x)°, find 'x'.
_____31.	If m∠BAC = (9x)°, find 'x'.



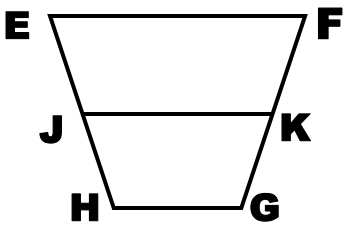
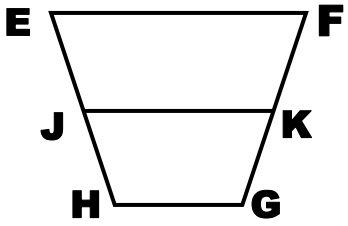
_____32.	If AB = 2x + 4 and CD = 3x – 5, find BC.

Find the indicated value.

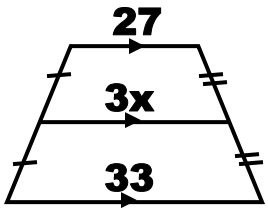
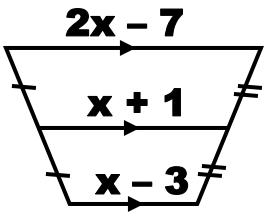
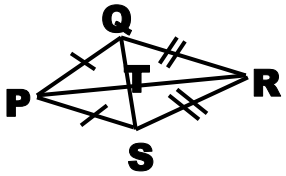
_____33.	ACKJ is a rhombus. AC = 6y + 4, CK = 5y + 8, and KJ = 3y + 16. Find KJ.
_____34.	PQRS is a rhombus. m∠PQS = (3x + 10)° and m∠SQR = (x + 40)°. Find m∠QSR.
_____35.	Points Z(-3, -10) and X(3, 2) are the endpoints of a diagonal of a rhombus. Find the slope of the line containing the other diagonal.

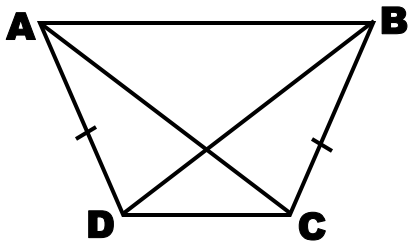
PART 4: TRAPEZOIDS & KITES

The diagram below shows a trapezoid and its median.

_____36. _____	If EH = FG, and m∠E = 65°, then m∠G =? and m∠GKJ =? 
_____37.	If EF = 36, JK = 4x, and GH = 2x + 6, find JK. 

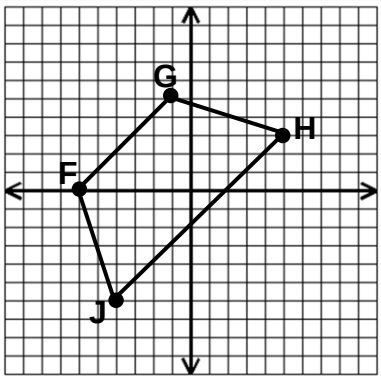
Find the value of 'x' in 38 & 39.

_____38.	
_____39.	
_____40.	In Kite PQRS, m∠SRT = 24°, and m∠TSP = 53°. Find m∠SPT. 
_____41.	MATH is an isosceles trapezoid with $\overline{AT} \parallel \overline{MH}$. If m∠M = (3x – 9)° and m∠H = (x + 3)°, find m∠H.

_____42.	Let AC = 25 and DB = 5x. Find 'x'. 

Use the isosceles trapezoid on the grid for problem 43.

_____43.	Find the equation of the line containing the median of trapezoid FGHJ.



PART 5: PROVING QUADRILATERALS

44.

GIVEN: Quadrilateral *ABCD* has vertices *A(*2,3), *B*(7,10), C(9,4), and *D*(4,−3).

PROVE: ABCD is a parallelogram; ABCD is not a rhombus