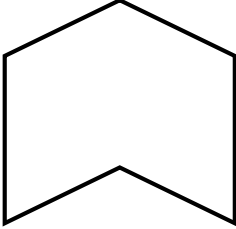
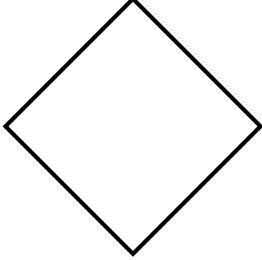


TEST REVIEW CHAPTER 7 POLYGONS & QUADRILATERALS

5 points added to your test, if complete.

POLYGONS AND THEIR ANGLES

Classify each of the following polygons. Then, determine if it is convex or concave.

<p>1. </p> <p>Classification: _____</p> <p style="text-align: center;">CONVEX or CONCAVE?</p>	<p>2. </p> <p>Classification: _____</p> <p style="text-align: center;">CONVEX or CONCAVE?</p>
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Find the following.

<p>3. _____</p>	<p>Find the sum of the measures of the interior angles of a decagon.</p>
<p>4. _____</p>	<p>Find the sum of the measures of the interior angles of an undecagon.</p>
<p>5. _____</p>	<p>Find the measure of one interior angle of a regular undecagon.</p>
<p>6. _____</p>	<p>Find the measure of one interior angle of a regular polygon with 15 sides.</p>
<p>7. _____</p>	<p>Find the number of sides of a regular polygon, if each interior angle has a measure of 162°.</p>

8. _____	The sum of the measures of the interior angles of a polygon is 900° . Find the number of sides of the polygon.
9. _____	Find the sum of the exterior angles of a 32-gon.
10. _____	Find the measure of one exterior angle of a regular polygon with 14 sides.
11. _____	Find the number of sides of a regular polygon if each exterior angle has a measure of 22.5° .

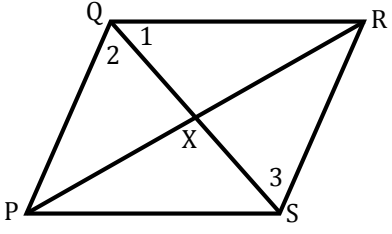
IMPORTANT GEOMETRIC TERMS

Provide a brief, but thorough, definition for each of the following geometric terms.

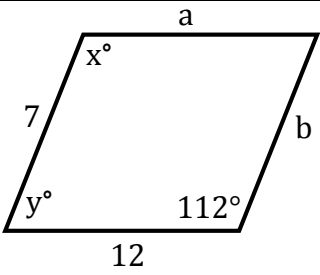
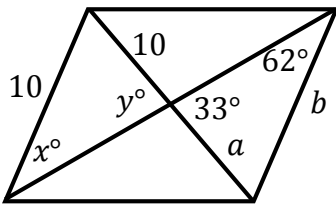
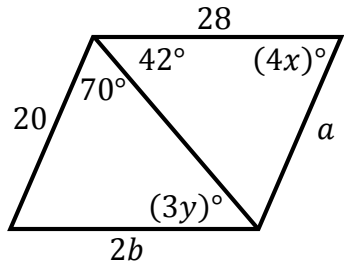
12. Quadrilateral	
13. Parallelogram	
14. Diagonal	
15. Rectangle	
16. Rhombus	
17. Square	
18. Trapezoid	

PARALLELOGRAMS

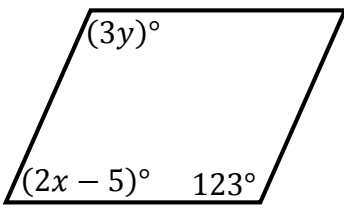
Use parallelogram PQRS below to complete the following statements.

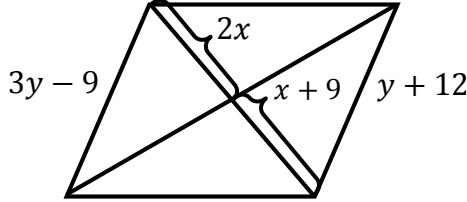
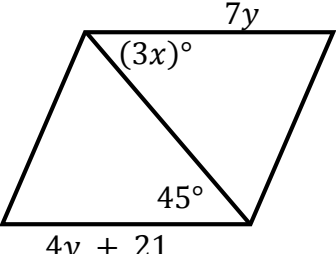
19. $QR =$ _____	If $PS = 5$, then $QR = ?$	
20. $PX =$ _____	If $PR = 20$, then $PX = ?$	
21. $m\angle PSR =$ _____	If $m\angle PQR = 125^\circ$, then $m\angle PSR = ?$	
22. $m\angle QPS =$ _____	If $m\angle PQR = 125^\circ$, then $m\angle QPS = ?$	
23. $m\angle PSR =$ _____	If $m\angle QPS = 125^\circ$, then $m\angle PSR = ?$	
24. $m\angle 3 =$ _____ $m\angle PSR =$ _____	If $m\angle 1 = 27^\circ$ and $m\angle 2 = 30^\circ$, then $m\angle 3 = ?$ and $m\angle PSR = ?$	

In exercises 25 – 27, each quadrilateral is a parallelogram. Find the indicated values.

25. $a =$ _____ $b =$ _____ $x =$ _____ $y =$ _____	
26. $a =$ _____ $b =$ _____ $x =$ _____ $y =$ _____	
27. $a =$ _____ $b =$ _____ $x =$ _____ $y =$ _____	

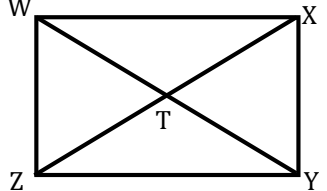
In exercises 28 – 30, what values must 'x' and 'y' have to make each quadrilateral a parallelogram?

28. $x =$ _____ $y =$ _____	
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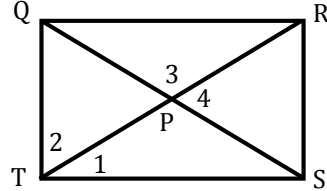
<p>29. $x =$ _____ $y =$ _____</p>	
<p>30. $x =$ _____ $y =$ _____</p>	

RECTANGLES

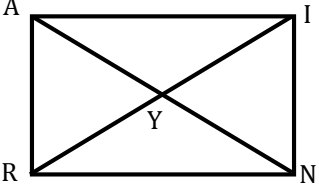
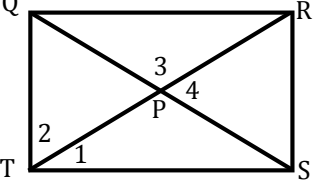
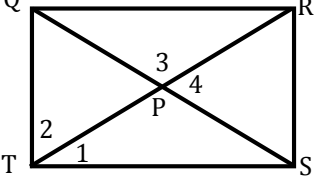
Quadrilateral WXYZ is a rectangle. Use this rectangle for problems 31 – 33.

<p>31. _____</p>	<p>If $WY = 19$, then $ZX = ?$</p>	
<p>32. _____</p>	<p>If $WY = 19$, then $WT = ?$</p>	
<p>33. _____</p>	<p>If $TX = 4.5$, then $WY = ?$</p>	
<p>34. _____</p>	<p>Rectangle GALS has diagonals \overline{GL} and \overline{AS}. If $GL = 3a + 6$ and $AS = 5a - 18$, then $a = ?$</p>	
<p>35. _____</p>	<p>Rectangle BOYS has diagonals \overline{BY} and \overline{OS}, which intersect at X. If $m\angle XOB = 70^\circ$, then $m\angle YSO = ?$ and $m\angle BSO = ?$</p>	

Use rectangle QRST and the given information to solve problems 36 – 37.

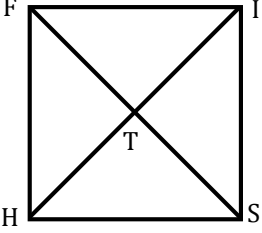
<p>36. _____</p>	<p>If $QP = 6$, find RT.</p>	
<p>37. _____</p>	<p>If $QT = 8$, find RS.</p>	

Solve each of the following.

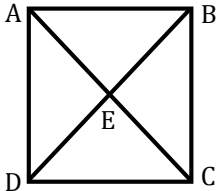
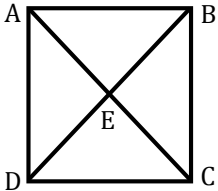
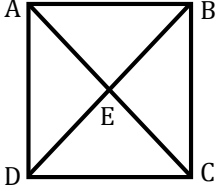
<p>38. _____</p>	<p>In rectangle RAIN below, $YR = 3x$ and $NY = 18$, find 'x'.</p> 
<p>39. _____</p>	<p>If $m\angle 1 = 55^\circ$, find $m\angle 2$.</p> 
<p>40. _____</p>	<p>If $m\angle 3 = 110^\circ$, find $m\angle 4$.</p> 

SQUARES & RHOMBI

Find the indicated measure.

<p>41. _____</p>	<p>FISH is a square with $IT = 6$. Find FS.</p>	
<p>42. _____</p>	<p>If MNOP is a square, what is $m\angle MNP$?</p>	

Use square ABCD and the given information to find each value.

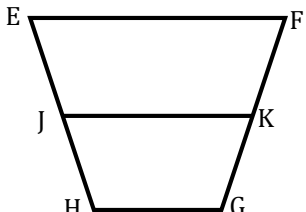
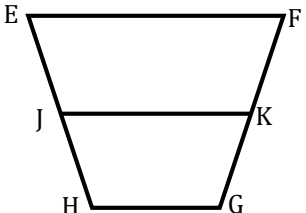
43. _____	If $m\angle AEB = (3x)^\circ$, find 'x'.	
44. _____	If $m\angle BAC = (9x)^\circ$, find 'x'.	
45. _____	If $AB = 2x + 4$ and $DC = 3x - 5$, find BC.	

Find the indicated value.

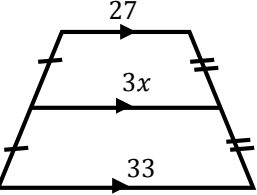
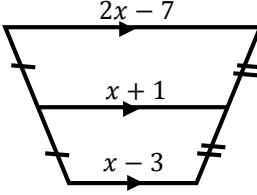
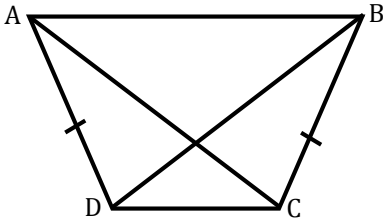
46. _____	ACKJ is a rhombus. $AC = 6y + 4$, $CK = 5y + 8$, and $KJ = 3y + 16$. Find the value of 'y'.
47. _____	PQRS is a rhombus. $m\angle PQS = (3x + 10)^\circ$ and $m\angle SQR = (x + 40)^\circ$. Find the $m\angle QRS$.

TRAPEZOIDS

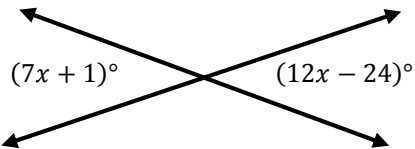
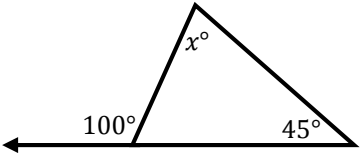
The diagrams below show a trapezoid and its median. Complete each of the following.

48. $m\angle G =$ _____ $m\angle GKJ =$ _____	If $EH = FG$, and $m\angle E = 65^\circ$, then $m\angle G = ?$ and $m\angle GKJ = ?$	
49. _____	If $EF = 36$, $JK = 4x$, and $GH = 2x + 6$, find the value of 'x'.	

Using each of the following diagrams, find the value of 'x'.

50. _____	
51. _____	
52. _____	The measures of the bases of a trapezoid are 18 <i>cm</i> and 24 <i>cm</i> . What is the measure of the trapezoid's median?
53. _____	MATH is an isosceles trapezoid with $\overline{AT} \parallel \overline{MH}$. If $m\angle M = (3x - 9)^\circ$ and $m\angle H = (x + 3)^\circ$, find the value of 'x'.
54. _____	<p>If $AC = 25$ and $DB = 5x$, find the value of 'x'.</p> 

REVIEW

55. _____	<p>Find the value of 'x'.</p> 
56. _____	<p>Find the value of 'x'.</p> 

A Mishmash of Answers

5

19

10; 10; 62; 33

A segment that joins non-consecutive vertices.

7

9.5

A quadrilateral with exactly one pair of parallel sides.

4

22

5

156°

30

65°/115°

10

12; 7; 112; 68

70°

A four-sided polygon.

1620°

9

55

45°

12

7

10

1440°

35°

20; 14; 17; 14

55°

A quadrilateral with four congruent sides.

Hexagon, concave

12

31/41

$25\frac{5}{7}^\circ$

125°

A quadrilateral in which opposite sides are parallel.

360°

70°/20°

6

Quadrilateral, convex

9/10.5

21

$147\frac{3}{11}^\circ$

12

55°

12

20

A quadrilateral that is both a rectangle and a rhombus.

8

5

16

5

6

A quadrilateral with four right angles.

30°/57°

15/7

70°