Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Geometry

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mrs. Schuler Q3 Polygons Test Review Answer Key

***Answer Key***

1. 3780 degrees
2. 172 degrees
3. 23 degrees
4. 8 sides
5. 33 sides
6. D
7. B
8. C
9. D
10. C
11. 6
12. D
13. B
14. B
15. B
16. A
17. A
18. B
19. D
20. DC
21. AD
22. <C
23. <A OR <C
24. D
25. Add the word Isosceles to trapezoid
    1. X = 47.5
    2. 58 degrees (rounded up from 57.5)
    3. 122.5 , I will accept 122 degrees or 123 degrees since D and E are supplementary.
    4. In an isosceles trapezoid opposite angles are supplementary. (Note this is not the case with parallelograms!)
26. The length of the legs is 5 each. Perimeter = 3 + 9 + 5+ 5

= 22

***STUDY GUIDE***

Interior Exterior Angle Packet

Parallelogram Problems

Trapezoid Problems

Midsegment of a Trapezoid Problems

**Examples of some – not all – see notes above!**

1. Find the sum of the interior angles of a polygon that has 23 sides.
2. Find the measure of each interior angle of a regular polygon that has 46 sides, to the nearest tenth of a degree.
3. Find, to the nearest degree, the measure of each exterior angle of a regular polygon that has 16 sides
4. Find the number of sides of a regular polygon if each interior angle is 135 degrees.
5. Find the number of sides of a polygon whose sum of the interior angles is 5580.
6. **Which statement is NEVER true?**
   1. **A square is a rhombus**
   2. **A rectangle is a parallelogram**
   3. **A kite is a quadrilateral**
   4. **A trapezoid is a parallelogram**
7. **Which statement is NOT true for rectangles?**
   1. **Opposite sides are parallel.**
   2. **All sides are congruent.**
   3. **It is a parallelogram**
   4. **Adjacent sides are perpendicular.**
8. **The diagonals of a quadrilateral are perpendicular bisectors of each other . What name best describes the quadrilateral?**
   1. **Rectangle d. quadrilateral c. rhombus d. parallelogram**
9. **Which is true for every trapezoid?**
   1. **Opposite angles are supplementary**
   2. **The diagonals bisect each other**
   3. **Exactly two sides are congruent**
   4. **Exactly two sides are parallel**
10. **Which is true of diagonals of an isosceles triangle?**
    1. **Diagonals are perpendicular**
    2. **Diagonals are not congruent**
    3. **Diagonals are congruent**
    4. **Diagonals are perpendicular bisectors**
11. **Which must be true: If the diagonals of a quadrilateral are congruent then the shape is a \_\_\_\_\_\_\_\_\_\_\_\_\_:**
    1. **Trapezoid**
    2. **Parallelogram**
    3. **Rectangle**
    4. **Rhombus**
12. **Which must be true: If the diagonals of a quadrilateral are perpendicular and angle bisectors then the shape is a \_\_\_\_\_\_\_\_\_\_\_\_\_:**
    1. **Rectangle**
    2. **Parallelogram**
    3. **Trapezoid**
    4. **Rhombus**
13. **If the diagonals of an isosceles triangle STUV are TV = 2x – 1 and US = x+2, find the value of x.**
    1. **X = 4 b. x=3 c. x=2 d. x=1**
14. **Given the statement: Any four sided parallelogram that is tilted cannot have congruent diagonals. This statement is:**
    1. **False b. True**
15. **In a polygon the number of sides is equal to the number of angles.**
    1. **False b. True**
16. **What is meant by the term “regular polygon”**
    1. **The length of the sides are all equal**
    2. **The angles and sides are supplementary**
    3. **The sum of the interior angles will equal 360 degrees**
    4. **The sum of the exterior angles will equal 360 degree**
17. **The sum of the interior angles of any polygon is**
    1. **Equal to 180(n-2)**
    2. **Always 180 degrees**
    3. **Is dependent upon the number of sides.**
    4. **Always 360 degrees**
18. **The sum of the exterior angles of any polygon is**
    1. **Always 180 degrees**
    2. **Always 360 degrees**
    3. **Is dependent upon the number of sides.**
    4. **Equal to 180(n-2)**
19. **Every interior angle and exterior angle partner is (a) \_\_\_\_\_\_\_\_**
    1. **Complementary relationship**
    2. **Congruent relationship**
    3. **Consecutive relationship**
    4. **Linear Pair relationship**
20. **Using the properties of a parallelogram, fill in the balnks with the correct solutions:**

Given ABCE

* + - 1. AB ll \_\_\_\_\_\_\_\_\_\_\_\_\_
      2. BC \_\_\_\_\_\_\_\_\_\_\_\_\_
      3. <A \_\_\_\_\_\_\_\_\_\_\_\_\_
      4. m< D + m< \_\_\_\_\_\_\_\_\_\_ = 180 degrees
      5. <B < \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **DEFG is a trapezoid with bases DG and EF. If m<D = (x+10) and m<E = (3x-20). Draw the trapezoid and label it.**
   1. **find the vaule of x**
   2. **Find the m<D.**
   3. **Find the m<E.**
   4. **The principle that drives your work: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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1. **In the diagram, isosceles trapezoid QTSR has bases TS and QR with measures of 3 and 9 respectively and an altitude of 4. Find the perimeter of the trapezoid. Draw the shape and label it. Show all work.**