1. B

2. C

3. 8

4. $8 \times 180^\circ = 1440^\circ$

5. 360° (T8-3)

6. $\frac{360^\circ}{10} = 36^\circ$ (T8-4)

7. 144° (T8-2)

8. 135° (T8-2)

9. 12 (T8-4)

10. $\frac{(n - 2)\ 180^\circ}{n} = 120^\circ$

$n = 6$ (T8-2)

GEOMETRY

The Complete Course

Lesson Eight

Polygons And Their Angles

KA8468

Worksheet

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I. VIDEOTAPE FOLLOW-UP QUESTIONS

I. Introduction.

II. Definitions.
- A. Polygon
- B. Convex polygon
- C. Concave polygon
- D. Regular polygon
- E. Diagonal
- F. Applied terms from triangles
  1. Vertex (vertices)
  2. Sides
  3. Interior angle
  4. Exterior angle

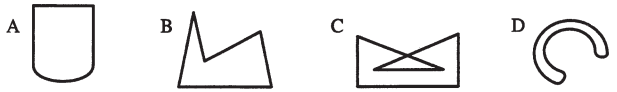
III. Types of polygons.
- A. Equiangular
  1. Rectangle
  2. Square
  3. Equiangular triangle
  4. Others
- B. Equilateral
  1. Rhombus
  2. Square
  3. Equilateral triangle
  4. Others
- C. Regular polygon (Equilateral and Equiangular)

IV. Classification of polygons.
- A. Triangle
- B. Quadrilateral
- C. Pentagon
- D. Hexagon
- E. Heptagon
- F. Octagon
- G. Nonagon
- H. Decagon
- I. Dodecagon
- J. n-on

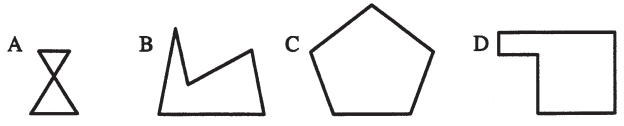
V. Theorems related to the angles of a polygon.
- A. The sum of the measures of the interior angles of a convex polygon with n sides is $(n - 2)180$. (T8-1)
- B. The measure of an angle of a regular polygon with n sides is $\frac{(n - 2)180}{n}$. (T8-2)
- C. The sum of the measures of the exterior angles of any convex polygon, one angle at each vertex, is 360. (T8-3)
- D. The measure of an exterior angle of a regular polygon with n sides is $\frac{360}{n}$. (T8-4)

II. SUPPLEMENTARY EXERCISES

1. Which of the following is an example of a polygon?



2. Which of the following is an example of a convex polygon?



3. Into how many triangles can a decagon be divided if diagonals are drawn from a vertex to the other non-consecutive vertices?

4. Referring to question number 3 above, since the sum of the measures of the angles of any triangle is 180º, what is the sum of the measures of the angles of a decagon?

5. What is the sum of the measures of the exterior angles of a decagon?

6. What is the measure of each exterior angle of a regular decagon?

7. What is the measure of each interior angle of a regular decagon?

8. What is the measure of each interior angle of a stopsign?

9. If the measure of each exterior angle of a regular polygon is 30º, how many sides does the polygon have?

10. If the measure of each interior angle of a regular polygon is 120º, how many sides does the polygon have?