



Math Olympiad and Problem Solving Programs
E130 - Honors Geometry Problem Solving
Problem Set 17.1 - Polygons

Name:

Date:

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8. We know that the exterior angles of a polygon with n sides has a total sum of 360. The information tells us that the total sum of the exterior angles is $23 + 35 + 62 + 30(n - 3)$. We know that these two must be equal, giving us the following equation:

$$23 + 35 + 62 + 30(n - 3) = 360$$

$$120 + 30n - 90 = 360$$

$$30 + 30n = 360$$

$$30n = 330$$

$$n = \text{\texttt{11}}$$

9.

10. (a)

(b)

(c)

(d)

(e)