Angles in Triangles and Polygons Part 2

Solution

10. $52^\circ + 2y = 180^\circ$ (adj. $\angle$s on st. line)

$$2y = 128^\circ$$
$$y = 64^\circ$$

$$90^\circ + 128^\circ + 93^\circ + x - 3^\circ + x = (5-2) \times 180^\circ \quad (\angle \text{ sum of polygon})$$
$$2x + 308^\circ = 540^\circ$$
$$2x = 232^\circ$$
$$x = 116^\circ$$

11. (a) $\dfrac{360^\circ}{8} = 45^\circ$

(b) Let the number of sides of a regular polygon be n.

$$\frac{360^\circ}{n} = 15^\circ$$
$$n = 24$$

The number of sides of a regular polygon is 24.

12. $\angle AED = 90^\circ$

$$\angle FED = \frac{(6-2) \times 180^\circ}{6} = 120^\circ$$
$$m = 120^\circ - 90^\circ$$
$$= 30^\circ$$