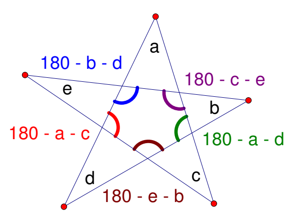
1. $\boxed{\text{(a) } \frac{99}{2} = 49.5 \text{ (b) } 32}$

2. $\boxed{60^\circ}$

3. (a) In the figure, we can notice that there are 5 major triangles, each which include two of the marked angles and one of the interior angles of the pentagon. Using this information we can label each of the interior angles of the pentagon in terms of our marked angles as shown. Now we know that the sum of the interior angles of a pentagon is $180(5-3) = 540$ so we get the following equation:

$$\begin{aligned} 180 - a - c + 180 - b - d + 180 - c - e + 180 - a - d + 180 - e - b &= 540 \\ 900 - 2a - 2b - 2c - 2d - 2e &= 540 \\ 360 &= 2a + 2b + 2c + 2d + 2e \\ a + b + c + d + e &= \boxed{180^\circ} \end{aligned}$$



(b) $\boxed{360^\circ}$

4. $\boxed{6}$

5. $\boxed{20}$

6. $\boxed{170^\circ}$

7. $\boxed{13}$

8. The sum of a polygon's exterior angles is always 360, regardless of how many sides it has. The sum of the interior angles is $180(n-2)$ so we get the following equation:

$$\begin{aligned} 180(n-2) &= 6 \cdot 360 \\ 180n - 360 &= 6 \cdot 360 \\ 180n &= 7 \cdot 360 \\ n &= 7 \cdot 2 = \boxed{14} \end{aligned}$$

9. $\boxed{15}$

10. Since $\triangle DPC$ is equilateral, we know that $\angle DCP = \angle CPD = 60$. This means also that $\angle PCB = 30$. We also gather that $PC = DC = BC$, making $\triangle PCB$ isosceles. In particular, $\angle CPB = \angle PBC = 75$. Similarly, $\angle APD = 75$. This leaves $\angle APB = 360 - 60 - 75 - 75 = \boxed{150°}$