Geometric Analysis of Jaw Protrusion

The following models represent the feeding mechanism of a batoid in two different states.

 Jaws in Resting State Jaws in Protruded State

 Back Back

 

 Front

 Front

1. ABCF and DEFC are isosceles trapezoids. FC bisects angle AFE and angle BCD. Find the measurement of each angle not already given.
2. Are quadrilaterals ABCF and DEFC similar? Explain.
3. Are △CGB and △CHD similar? Explain.
4. Find the length of the batoid feeding mechanism from front to back with the jaws in the resting state.
5. JKLP and NMPL are isosceles trapezoids. Find the measurement of each angle not already given.
6. Find the length of the batoid feeding mechanism from front to back with the jaws in the protruded state.
7. From how far above the sea floor can the batoid reach its food?