Using parallel lines, symmetry and circle properties to calculate angles

PART 1

1. Calculate the sizes of the missing angles in the diagrams below. [8]

![Diagrams with angles labeled]

2. If \( \angle ABG = 125^\circ \), calculate the size of

(a) \( \angle ABE \)  
(b) \( \angle DEH \)  
(c) \( \angle BEF \)  
(d) \( \angle GBC \)  

[12 marks]
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PART 2

1. In each of the diagrams below AB is a diameter. Find the missing angles in each diagram.

   ![Diagram 1](image1)
   ![Diagram 2](image2)
   ![Diagram 3](image3)

   [8 marks]

2. Use the symmetry properties of the circle to find the missing angles in the diagrams below. In each diagram AB is a diameter.

   ![Diagram 4](image4)
   ![Diagram 5](image5)

   [11 marks]

[19 marks]