The Claw Worksheet Answers
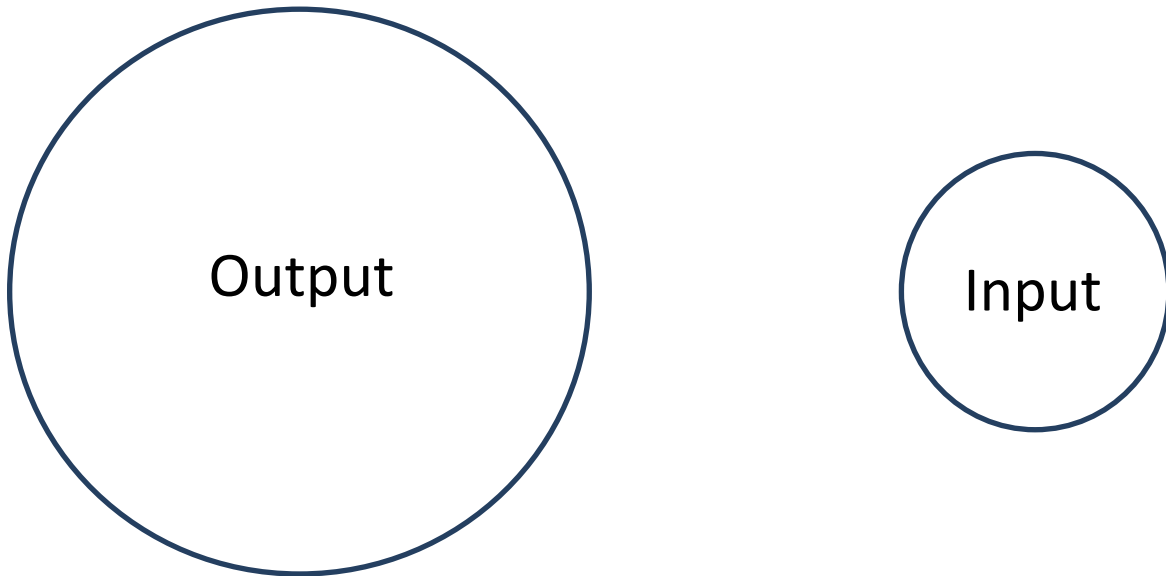
1. **Measure the diameters of the circles below. Compute the gear ratio.**

Output

Input

Output : Input = 3 inches : 1.5 inches = 2 : 1

2. **If an input gear has 24 teeth on its edges and an output gear has 48 teeth on its edges, what is the gear ratio?**

Output : Input = 48 teeth : 24 teeth = 2 : 1

3. **If an idler gear with 12 teeth is placed in between them, what is the gear ratio?**

Adding the idler gear does not end up changing the gear ratio! We can see this by computing each gear ratio. First, we have 48 teeth : 12 teeth for the output gear to the idler, which reduces to 4. Then we take the idler to the input gear ratio, 12 teeth : 24 teeth, which is 0.5. We multiply 0.5 by the first ratio we calculated (4). The answer is 2, which is the same answer we found to question 2.