Number Trick Task

Jessie discovers a cool number trick. She thinks of a number between 1 and 10, she adds 4 to the number, doubles the result, and then she writes this answer down. She goes back to the number she first thought of, she doubles it, she adds 8 to the result, and then she writes this answer down.

Here is an example:

Jessie thinks of the number. 5

She adds 4 to her number 5 + 4 = 9

She doubles the result 9 x 2 = 18

She writes down her answer. 18

Jessie goes back to the number she thought of. 5

She doubles her number. 5 x 2 = 10

She adds 8 to the result. 10 + 8 = 18

She writes down her answer. 18

Will Jessie’s two answers always be equal to each other for any number between 1 and 10? Explain your reasoning.

Does your explanation show that the two answers will always be equal to each other for *any* number (not just numbers between 1 and 10)? Explain your answer.