



NOETIC LEARNING

## PROBLEM OF THE WEEK

October 30, 2023

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### THE PROBLEM:

Sam the Squirrel found a basket of pine cones one morning. He decided that every day he would double the number of pine cones in the basket in the morning and eat 2 pine cones out of the basket in the afternoon. At the end of the third day, there were 34 pine cones in the basket. How many pine cones were in the basket when Sam the Squirrel found it?



(Source: [Noetic Learning Math Contest](https://www.noetic-learning.com/pow.jsp) )

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# **PROBLEM OF THE WEEK**

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## **THE SOLUTION:**

We will work backwards to find how many pinecones there were initially.

3rd day:

- At the end of the afternoon, Sam had 34.
- At the beginning of the afternoon, he had  $34 + 2 = 36$ .
- At the beginning of the morning, he had  $36 \div 2 = 18$ .

2nd day:

- At the end of the afternoon, he had 18.
- At the beginning of the afternoon, he had  $18 + 2 = 20$ .
- At the beginning of the morning, Sam had  $20 \div 2 = 10$ .

1st day:

- At the end of the afternoon, Sam had 10.
- At the beginning of the afternoon, he had  $10 + 2 = 12$ .
- At the beginning of the morning, he had  $12 \div 2 = 6$ .

**THE ANSWER: 6 PINE CONES**