

# MATHCOUNTS<sup>®</sup> Problem of the Week Archive

## *Symbols – July 15, 2024*

### **Problems & Solutions**

For the following problems, let  $m @ n = m + 2n$ .

What is the value of  $14 @ 8$ ?

*Since  $m @ n = m + 2n$ , it follows that  $14 @ 8 = 14 + (2)(8) = 14 + 16 = 30$ .*

If  $m @ 6 = 42$ , what is the value of  $m$ ?

*Substituting and solving for  $m$ , we have  $m @ 6 = 42 \rightarrow m + (2)(6) = 42 \rightarrow m + 12 = 42 \rightarrow m = 30$ .*

What is the value of  $6 @ (6 @ 3)$ ?

*Following the order of operations, we start by solving the  $6 @ 3$  from within the parenthesis first. We have  $6 @ 3 = 6 + (2)(3) = 6 + 6 = 12$ . So, now we are solving  $6 @ 12$  and get  $6 @ 12 = 6 + (2)(12) = 6 + 24 = 30$ .*

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### ***Problems***

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What is the value of  $14 @ 8$ ?

If  $m @ 6 = 42$ , what is the value of  $m$ ?

What is the value of  $6 @ (6 @ 3)$ ?