

Which number belongs in the empty circle? Find the pattern, then, in words, describe in detail the pattern you have discovered. I discovered that the numbers that are even are only used once in the circle. I also discovered that the odd numbers duplicate is either across or vertical. It is not ever diagonal. I also noticed the even numbers go in a sequential pattern from middle left, right, diagonal left middle, diagonal right, across.

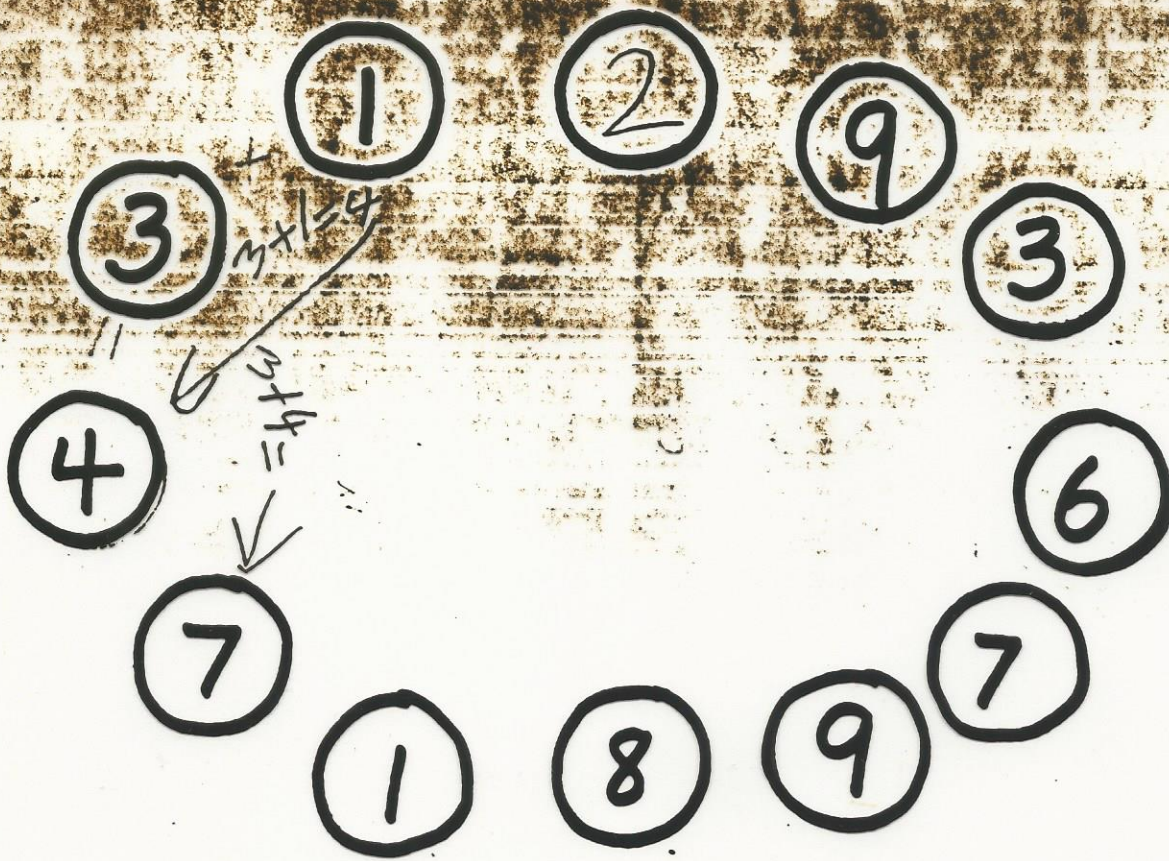
**Good thinking, Danny.**

I think the number is 2 because starting with the number one on the top, (if I'm doing this counter clockwise) it goes like this:  $1+3=4$  then you go to 7, and then start with the number in back of it, so the next equation is:  $4-7=11$  you drop the ten (only if the answer starts with a ten), so now you go to 2, and start with the number in back of it so the next equation is:  $1+8=9$ , and the pattern goes on and on. That is the way I did mine, but I am sure that there are much more patterns because I tried a lot more patterns but I chose this one because it was very fun to notice.

By: Erin

Excellent mathematical thinking, Erin!

What number do you think belongs in the empty circle? Describe below why you think that is the correct number.



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The answer in the empty circle is number two. The pattern is you add two numbers together and that's the next number. Then you add the answer you just did to the number before it. Then that's the next answer. If the answer is ten and up you only put the ones place number in the circle. That's how I got the answer.

Excellent thinking, Michelle!