CEMC at Home
Grade 4/5/6 - Wednesday, May 6, 2020
Looping Around

Try the following problems. How are the problems and their solutions similar?

Skaters

Seven people are skating in a line on a very long, frozen canal. They begin as shown below.

After every minute the person at the front of the line moves to the end of the line. For example, after 1 minute, U will be in front of the line, since V will move behind P.

1. Which skater will be at the front of the line after 3 minutes?
2. Which skater will be at the front of the line after 16 minutes?

Jumping Beaver

An unusual beaver loves to jump. It starts from rock number 0, and jumps clockwise from rock to rock in numerical order. For example, if the beaver jumps 8 times, it ends up on rock number 3:

\[
0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 0 \rightarrow 1 \rightarrow 2 \rightarrow 3
\]

1. What rock does the beaver end up on if it jumps 29 times?
2. What rock does the beaver end up on if it jumps 50 times?

More Info:

Check out the CEMC at Home webpage on Wednesday, May 13 for a solution to Looping Around. These problems appeared on past Beaver Computing Challenges (BCC). The BCC is a problem solving contest with a focus on computational and logical thinking.