Network News

Here is a special kind of network — any number that goes into the **in** box gets changed around in complicated ways. Finally the number that comes out the **out** box is the same as the number that went in.

```
in  + 8  + 2  - 4  + 3
   × 6  × 2  - 10  × 4
   + 5  + 3  × 2  × 3
   × 8  + 2  - 6  + 1
   + 2  + 2  + 1
```

1. Try this network, putting several different numbers into the **in** box and following along each of the four different paths from **in** to **out**. Do you always get out the same number you put in?
2. Can you add another path to this network that starts at the **in** and goes to the **out** box without changing the original number?

3. Explain how you think this network works.