

--- Day 12: Rain Risk ---

Your ferry made decent progress toward the island, but the storm came in faster than anyone expected. The ferry needs to take **evasive actions**!

Unfortunately, the ship's navigation computer seems to be malfunctioning; rather than giving a route directly to safety, it produced extremely circuitous instructions. When the captain uses the **PA system** to ask if anyone can help, you quickly volunteer.

The navigation instructions (your puzzle input) consists of a sequence of single-character **actions** paired with integer input **values**. After staring at them for a few minutes, you work out what they probably mean:

- Action **N** means to move **north** by the given value.
- Action **S** means to move **south** by the given value.
- Action **E** means to move **east** by the given value.
- Action **W** means to move **west** by the given value.
- Action **L** means to turn **left** the given number of degrees.
- Action **R** means to turn **right** the given number of degrees.
- Action **F** means to move **forward** by the given value in the direction the ship is currently facing.

The ship starts by facing **east**. Only the **L** and **R** actions change the direction the ship is facing. (That is, if the ship is facing east and the next instruction is **N10**, the ship would move north 10 units, but would still move east if the following action were **F**.)

For example:

```
F10
N3
F7
R90
F11
```

These instructions would be handled as follows:

- **F10** would move the ship 10 units east (because the ship starts by facing east) to **east 10, north 0**.
- **N3** would move the ship 3 units north to **east 10, north 3**.
- **F7** would move the ship another 7 units east (because the ship is still facing east) to **east 17, north 3**.
- **R90** would cause the ship to turn right by 90 degrees and face **south**; it remains at **east 17, north 3**.
- **F11** would move the ship 11 units south to **east 17, south 8**.

At the end of these instructions, the ship's **Manhattan distance** (sum of the absolute values of its east/west position and its north/south position) from its starting position is **17 + 8 = 25**.

Figure out where the navigation instructions lead. What is the Manhattan distance between that location and the ship's starting position?

To begin, **get your puzzle input**.

Answer: [\[Submit\]](#)

You can also [\[Share\]](#) this puzzle.

Spotify - Follow our engineering blog to see how our developers solve complex tech problems, at scale, every day.