Problem 2—Cylindrical Mirror
written by Andy Poe

Michelle Kwan is performing in *Skating With The Stars* with her very able partner, Rush Limbaugh. At the center of the rink is a large cylindrical mirror twenty feet in diameter. Michelle is looking into the mirror (from outside) to see if she can see Rush's reflection.

In Cartesian coordinates, you can imagine that the center of the mirror is at the origin and its radius is 10. Michelle is standing on the negative *x*-axis with (obviously) $x < -10$ and is facing the mirror. Rush is somewhere on the Cartesian plane (but *not* anywhere on the *x*-axis). It could very well be that Rush is in Michelle's direct line of sight, but for the skating stunt to work, Michelle has to locate Rush in the mirror. You are to compute the angle that Michelle has to look in order to see Rush's reflection, assuming it's even possible. For every case, Rush will either be visible in the mirror or not visible. No test case will have Rush on the "horizon" of the mirror.

INPUT SPECIFICATION. Each input case will be three floating-point numbers separated by one space and the case terminated by **<EOLN>**. The first floating point number is Michelle's location on the *x*-axis. The second is Rush's *x*-coordinate. The third is Rush's *y*-coordinate. The last input case will be followed by "0**<EOLN>**". This line is not to be processed; it merely specifies the end of input.

OUTPUT SPECIFICATION. The output cases should appear in the same order as the input cases. Each output case will be of the form "Case *c*: Michelle can see Rush's reflection *d* degrees to the *lr*." or "Case *c*: Michelle cannot see Rush's reflection." whichever is appropriate. *c* is the number of the input case, and *lr* is the word "left" or the word "right" whichever is appropriate. *d* is the appropriate angle rounded to the nearest tenth of a degree and displayed with exactly one digit to the right of the decimal point. Each output case should be followed by two **<EOLN>**'s.

SAMPLE INPUT.

```
-20·0·20<EOLN>
-20·10·10<EOLN>
0<EOLN>
<EOF>
```

SAMPLE OUTPUT.

```
Case·1:·Michelle·can·see·Rush's·reflection·28.7·degrees·to·the·left.<EOLN>
<EOLN>
Case·2:·Michelle·cannot·see·Rush's·reflection.<EOLN>
<EOLN>
<EOF>
```