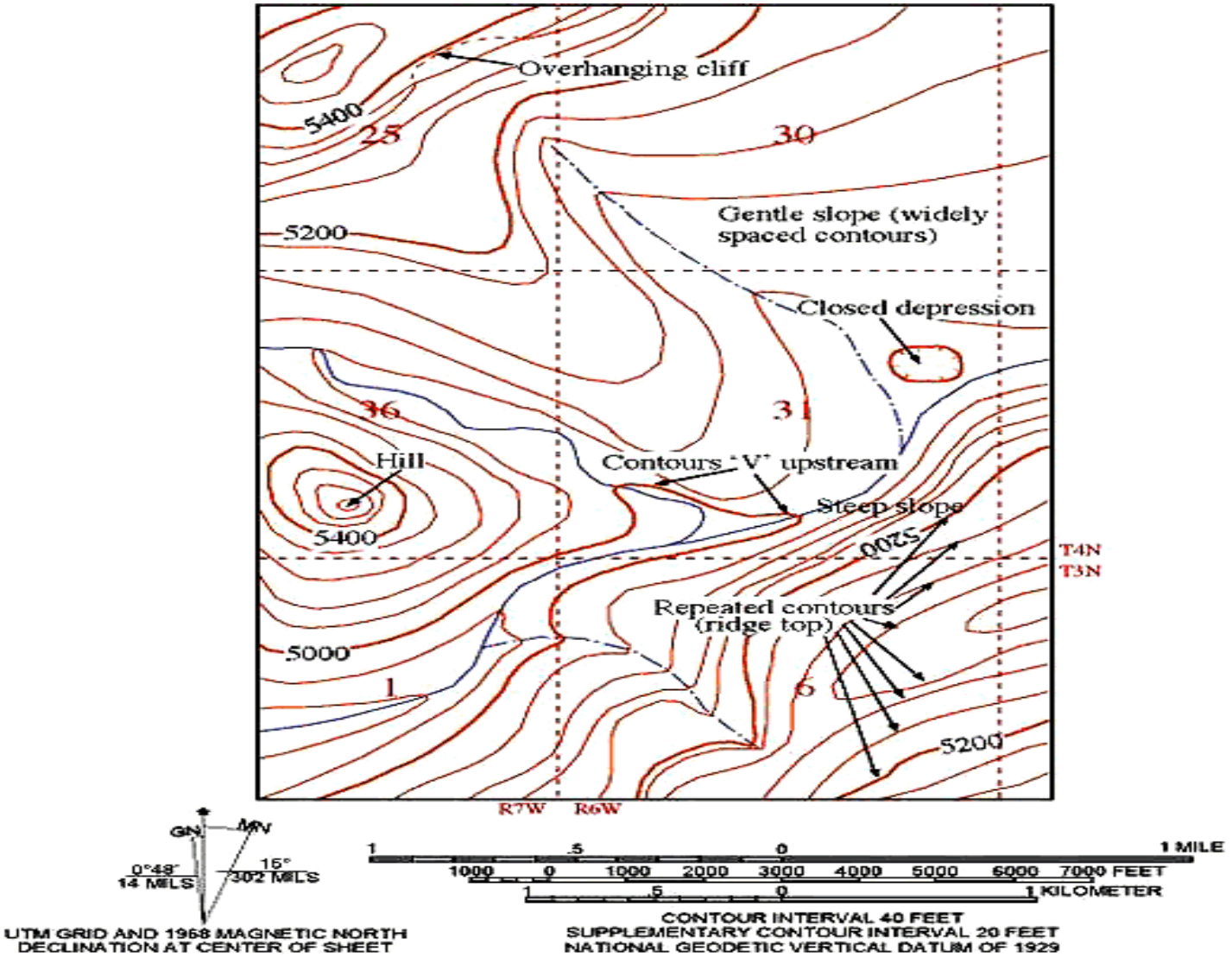
Topographic Maps



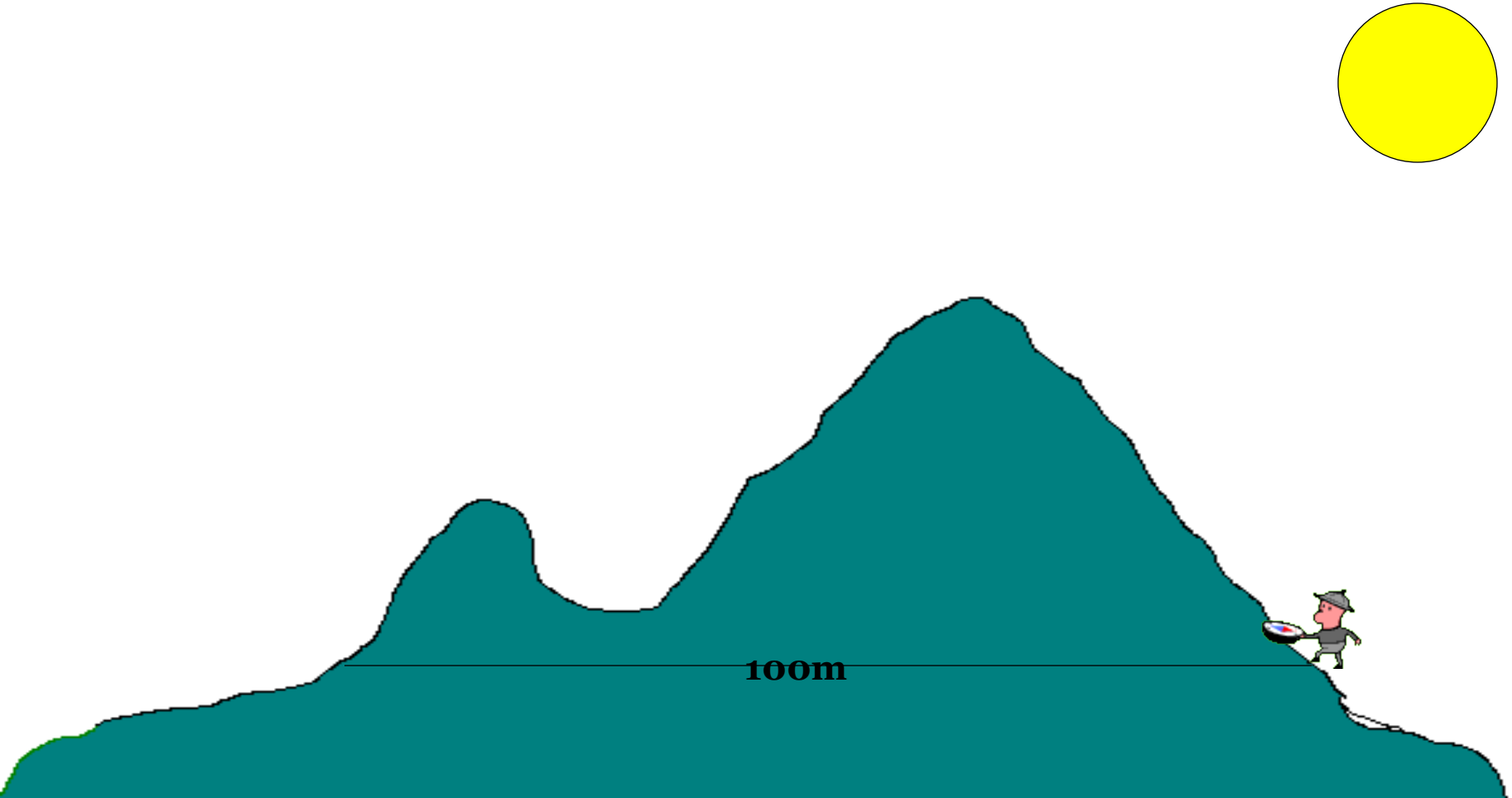
What is a Topographic Map?

In contrast to most maps, a topographic map shows the shape of the Earth's surface by using contour lines.

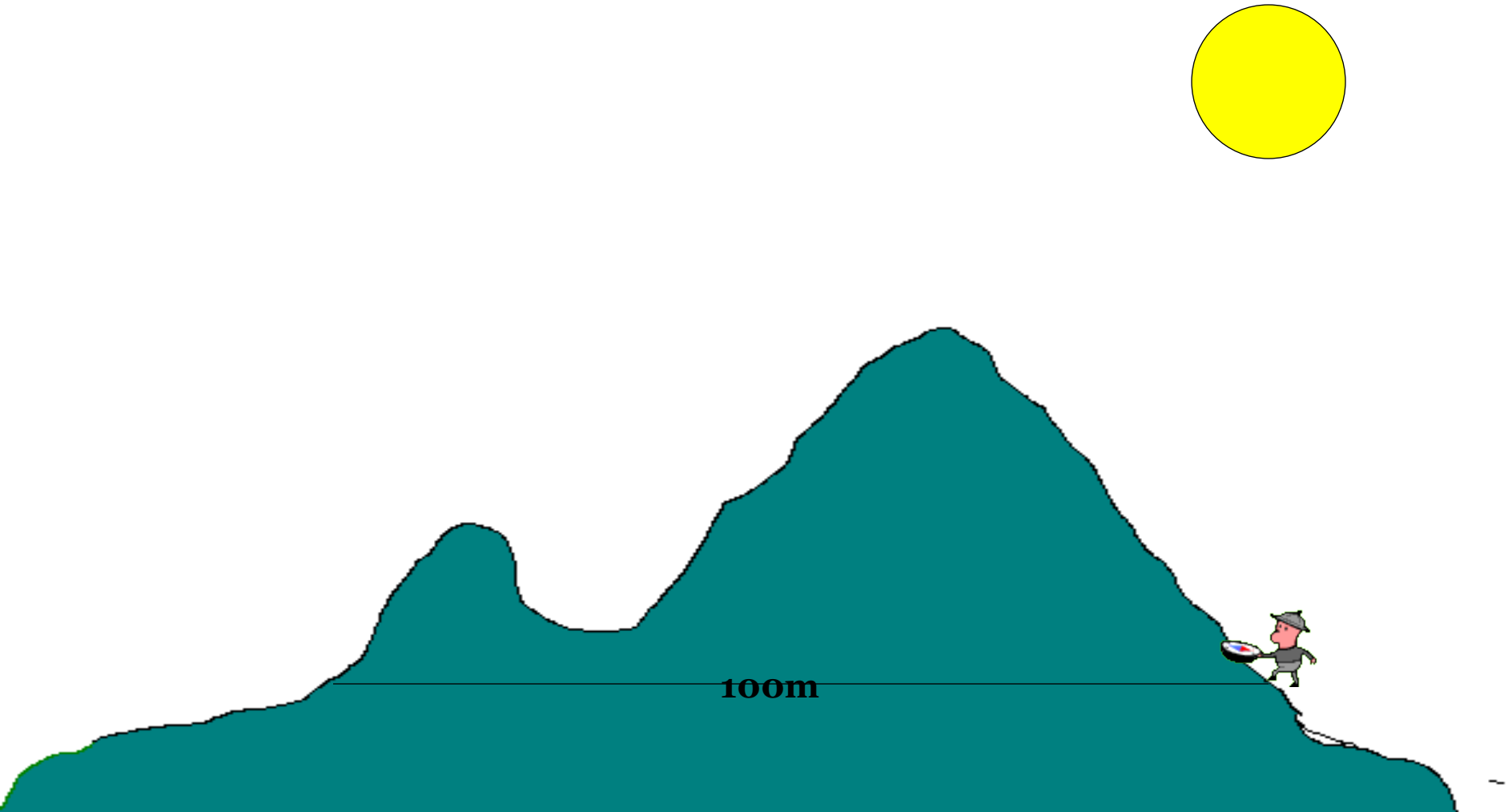
Contours are imaginary lines that join points of equal elevation above or below sea level.

Let’s take a walk up a hill!

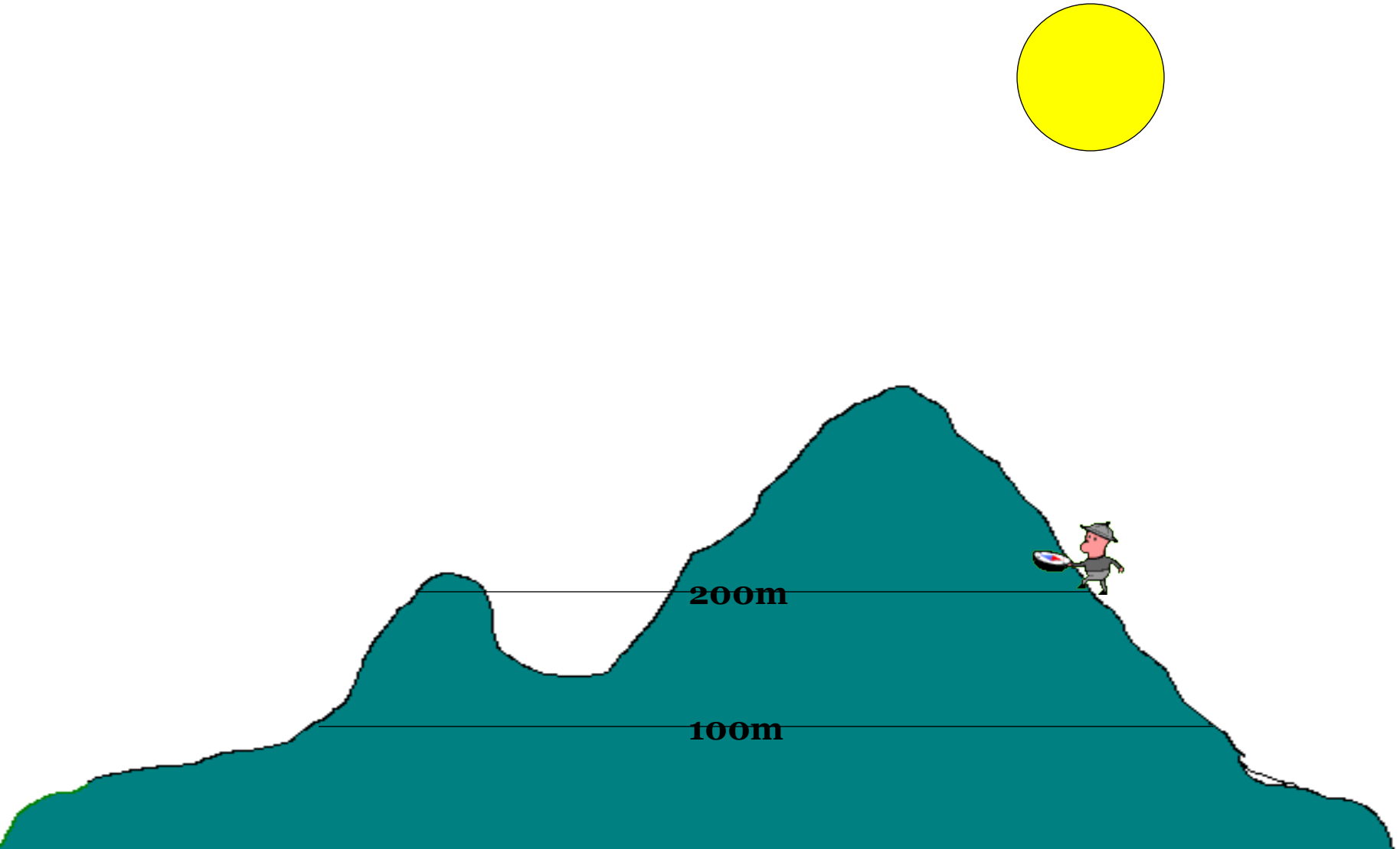
We’re now at an elevation of 100 meters.



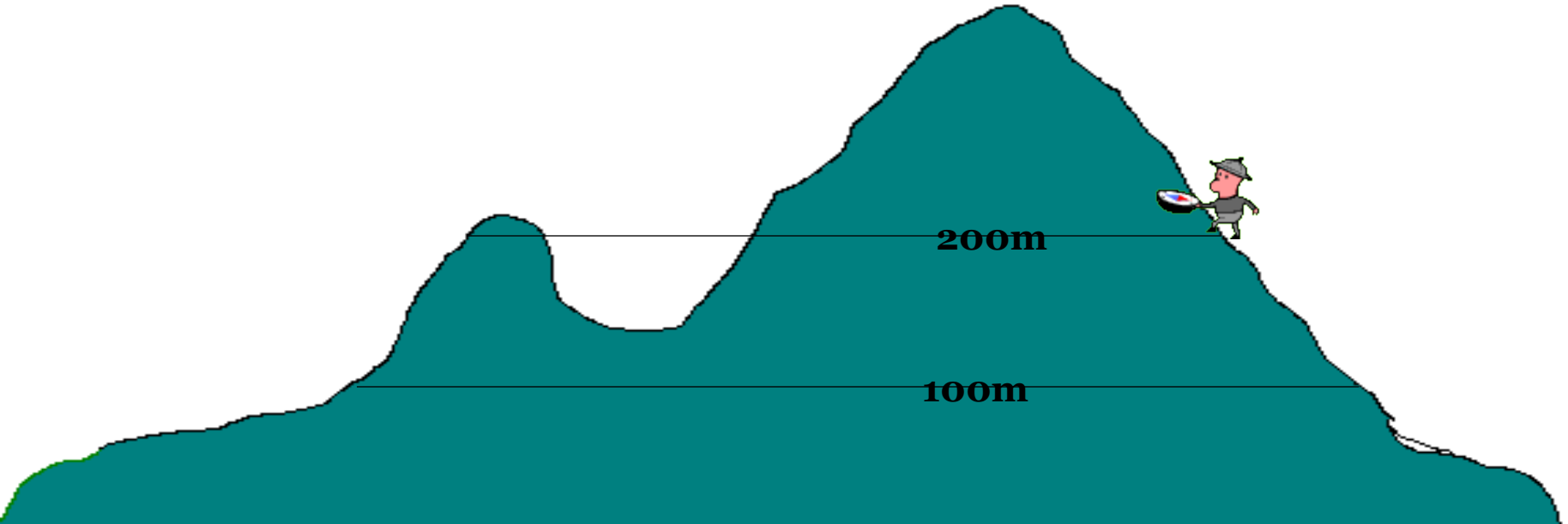
Let’s keep going!



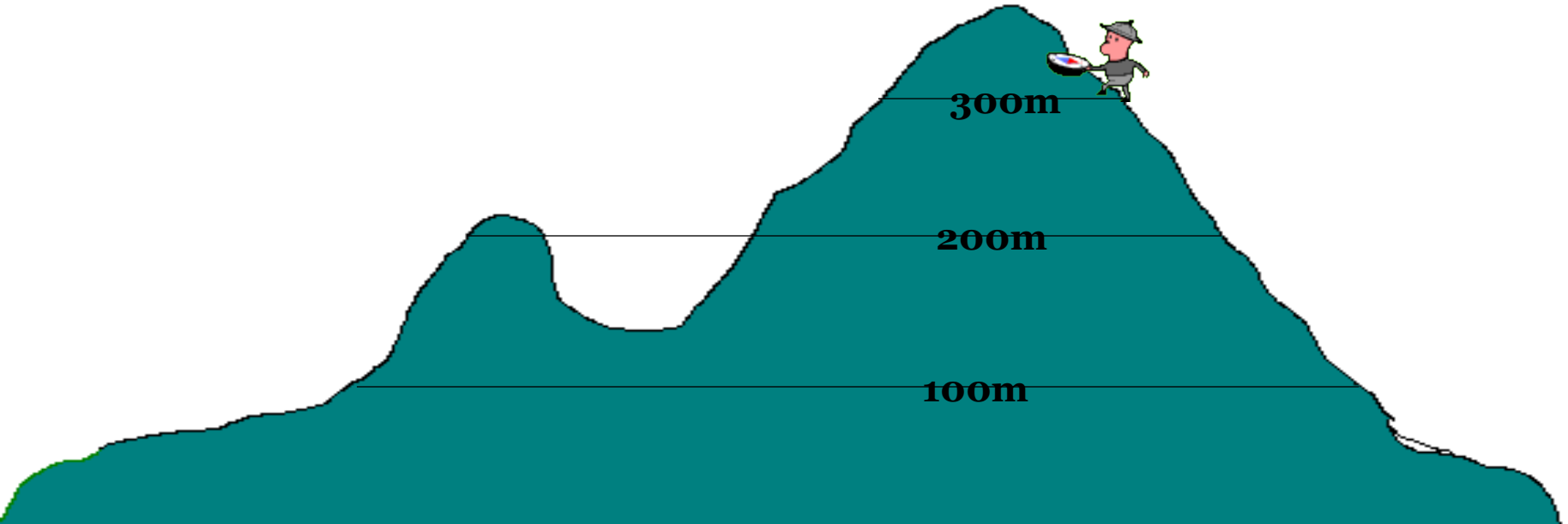
Now we're at 200m.



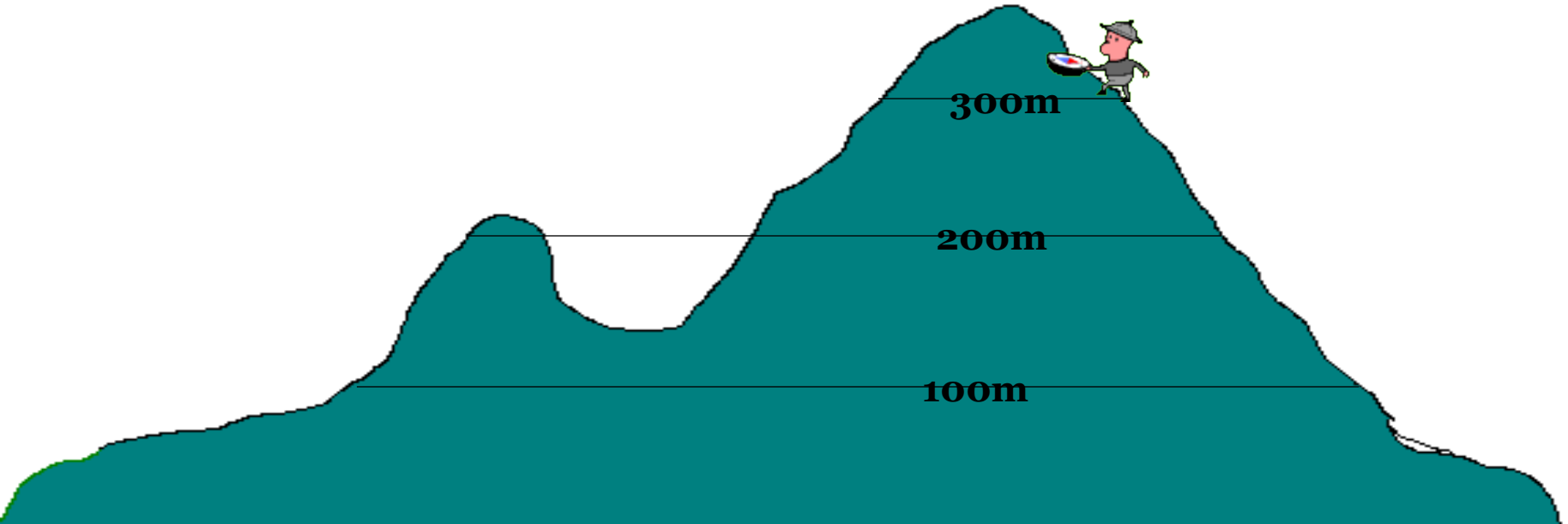
Shall we march on?



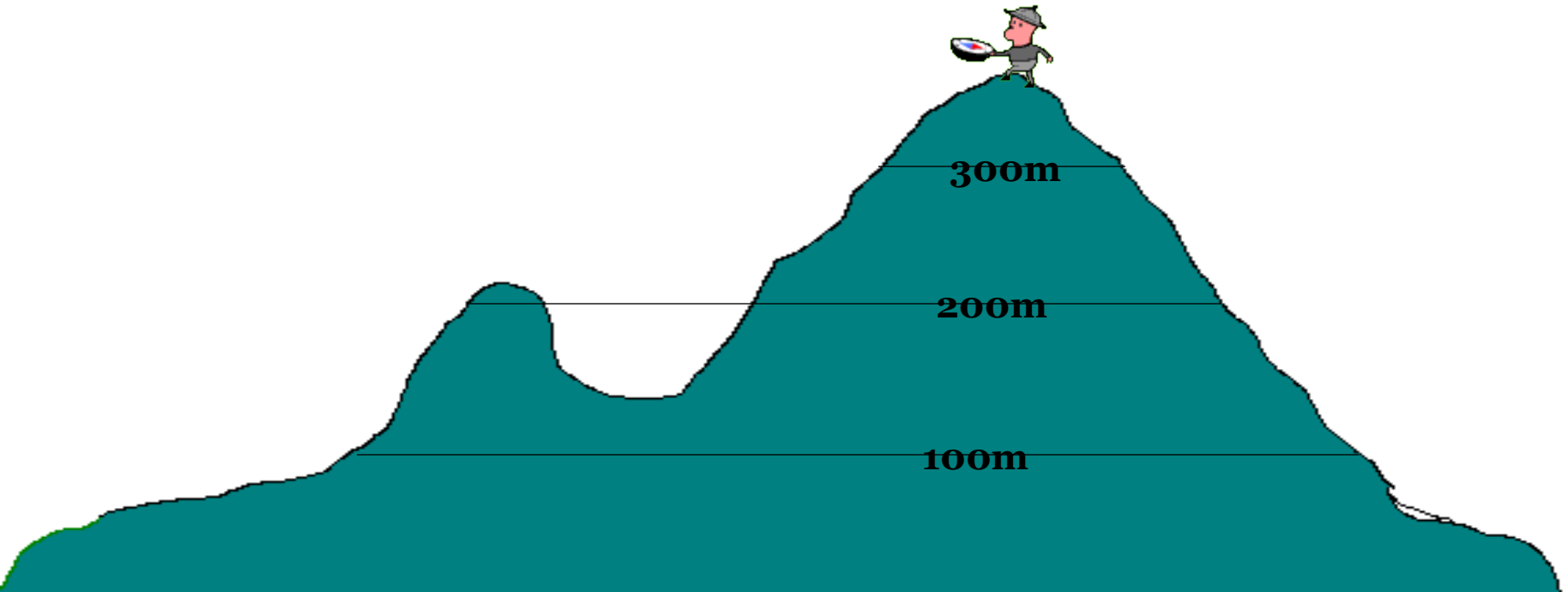
We've made it to 300m!



On to the peak!

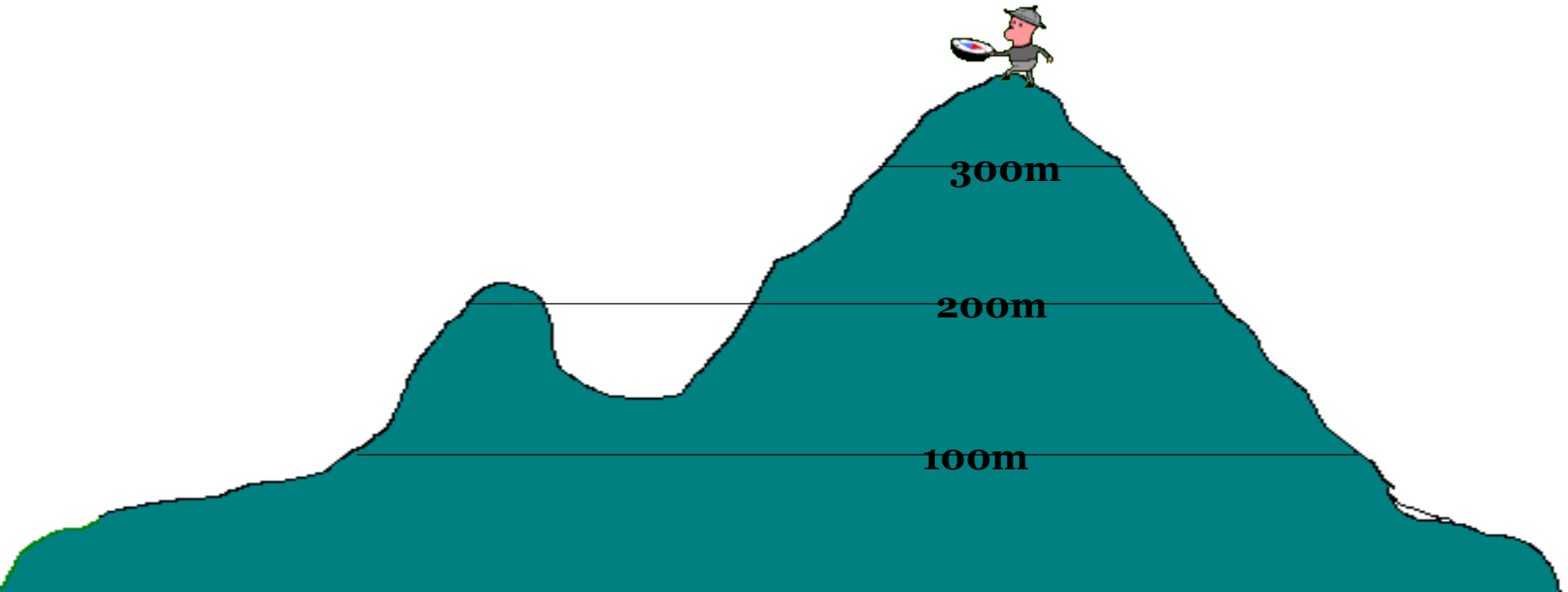


We're on the peak, but what's our elevation?

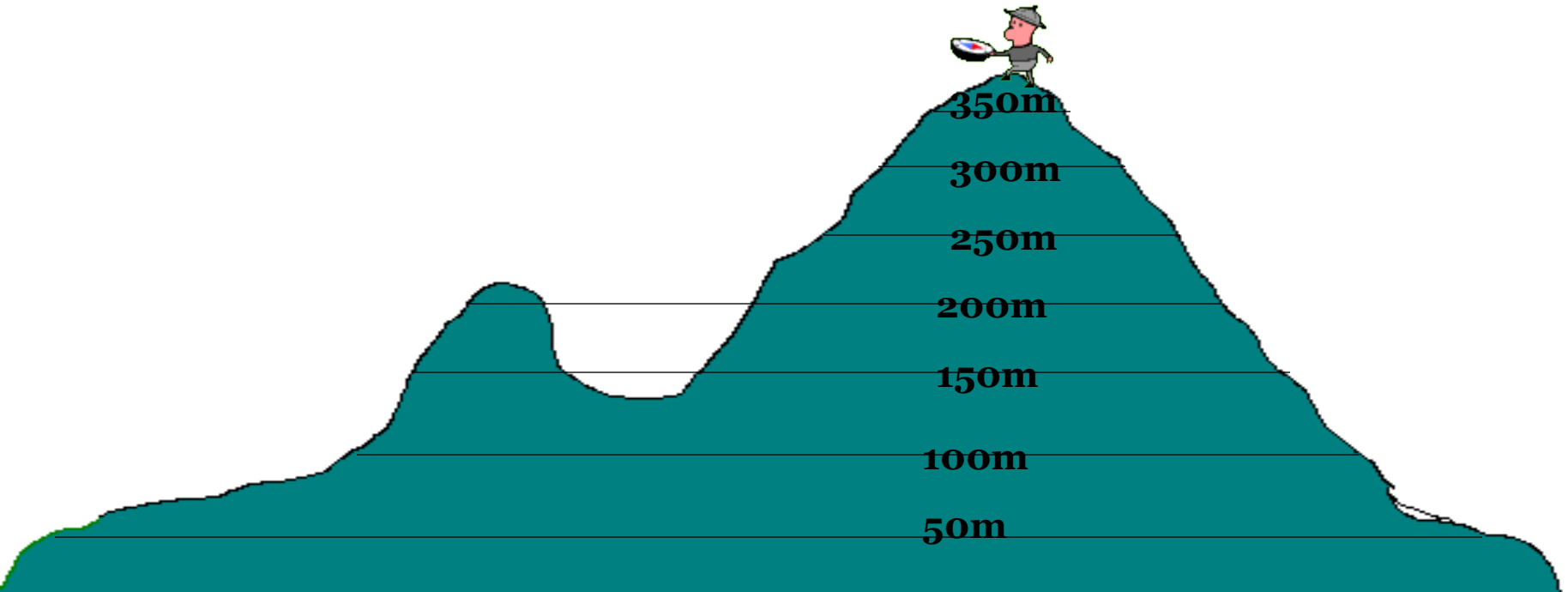


Any ideas?

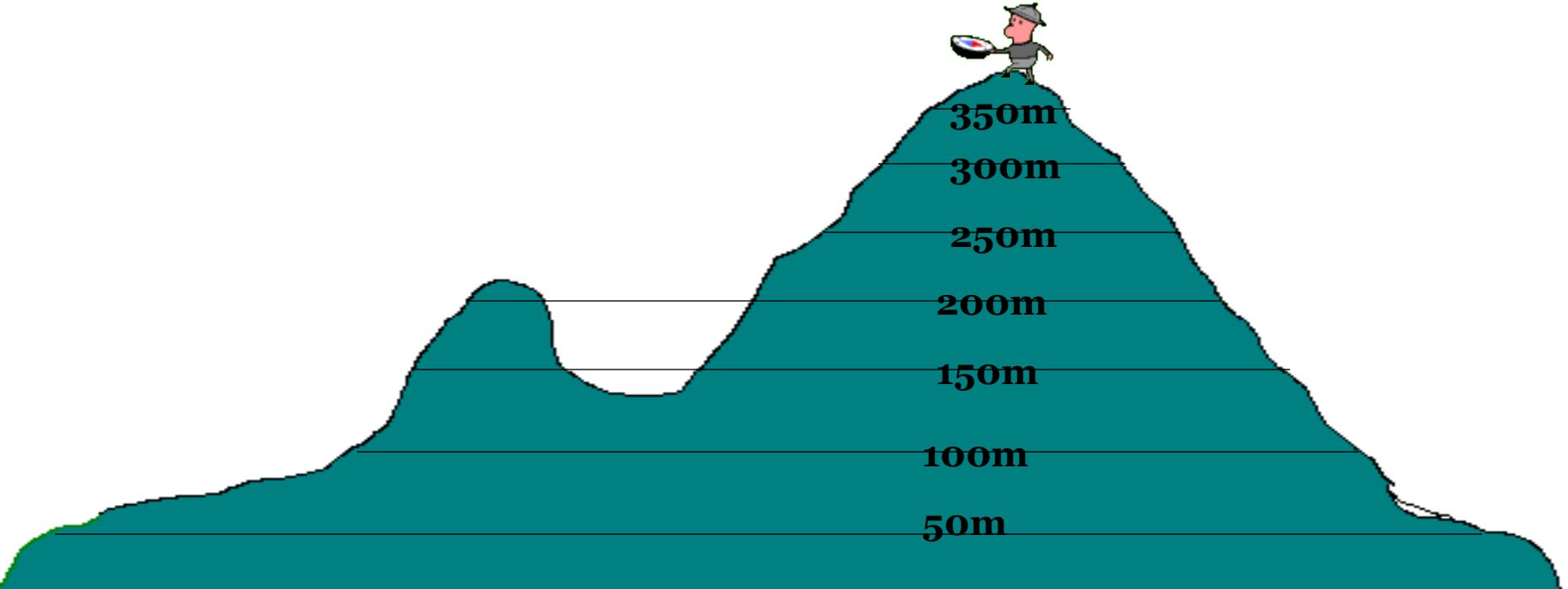
Let's add contour lines for every 50 meters and see if that helps.



We know that we are above 350m, but less than 400m.

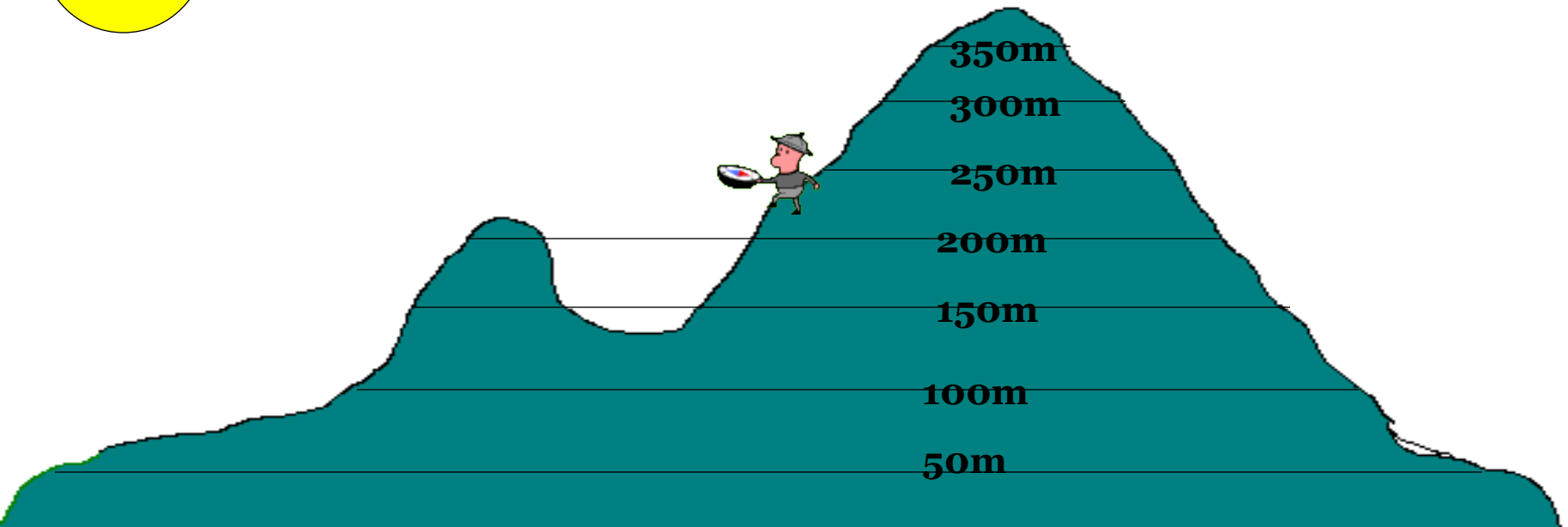


Let’s head down the hill, it’s getting late!

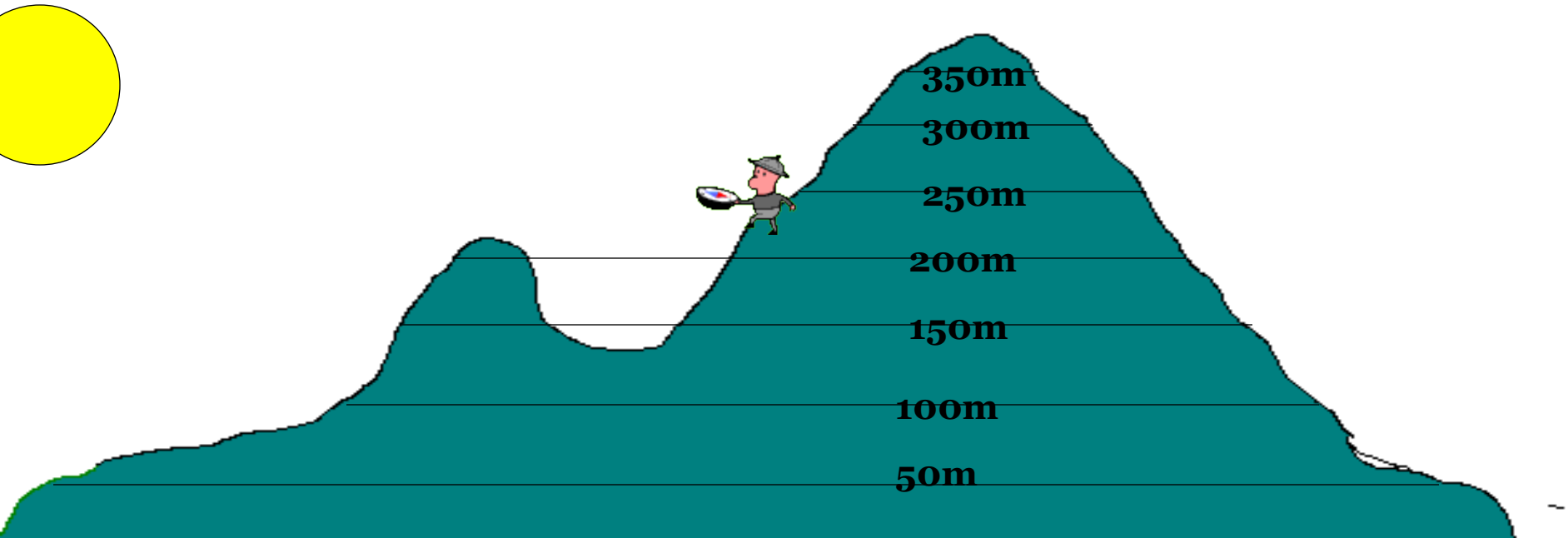


Now what's our elevation?

If you said somewhere between 200m and 250m you are right!

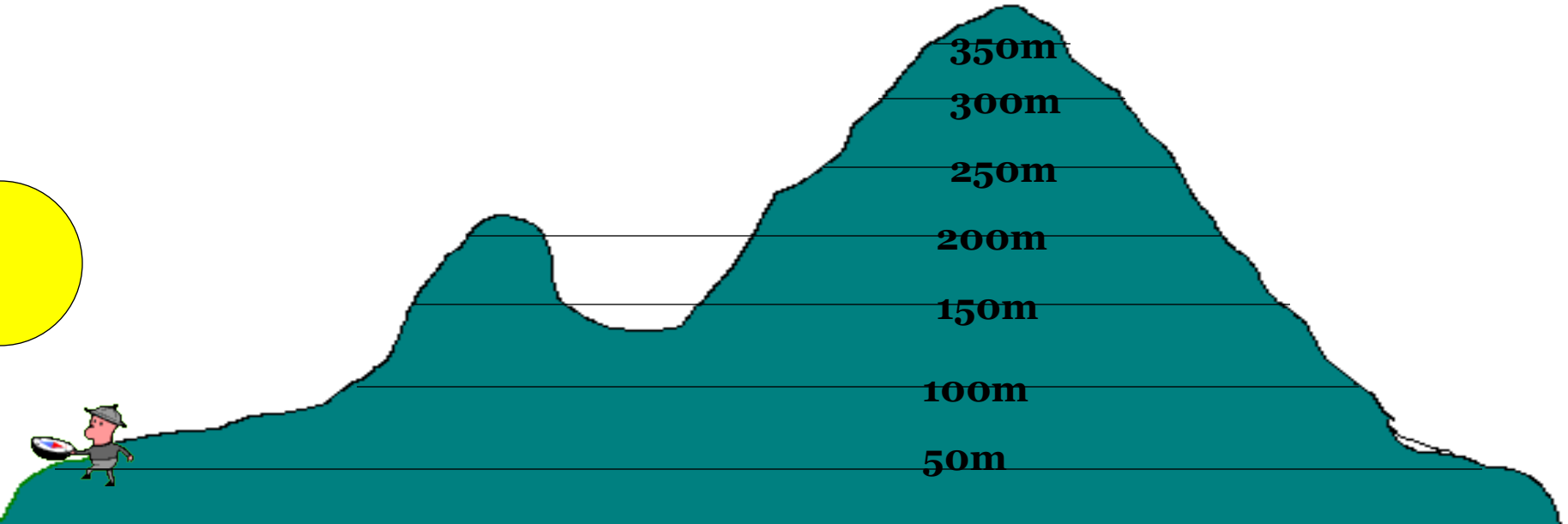


Let’s try this again!



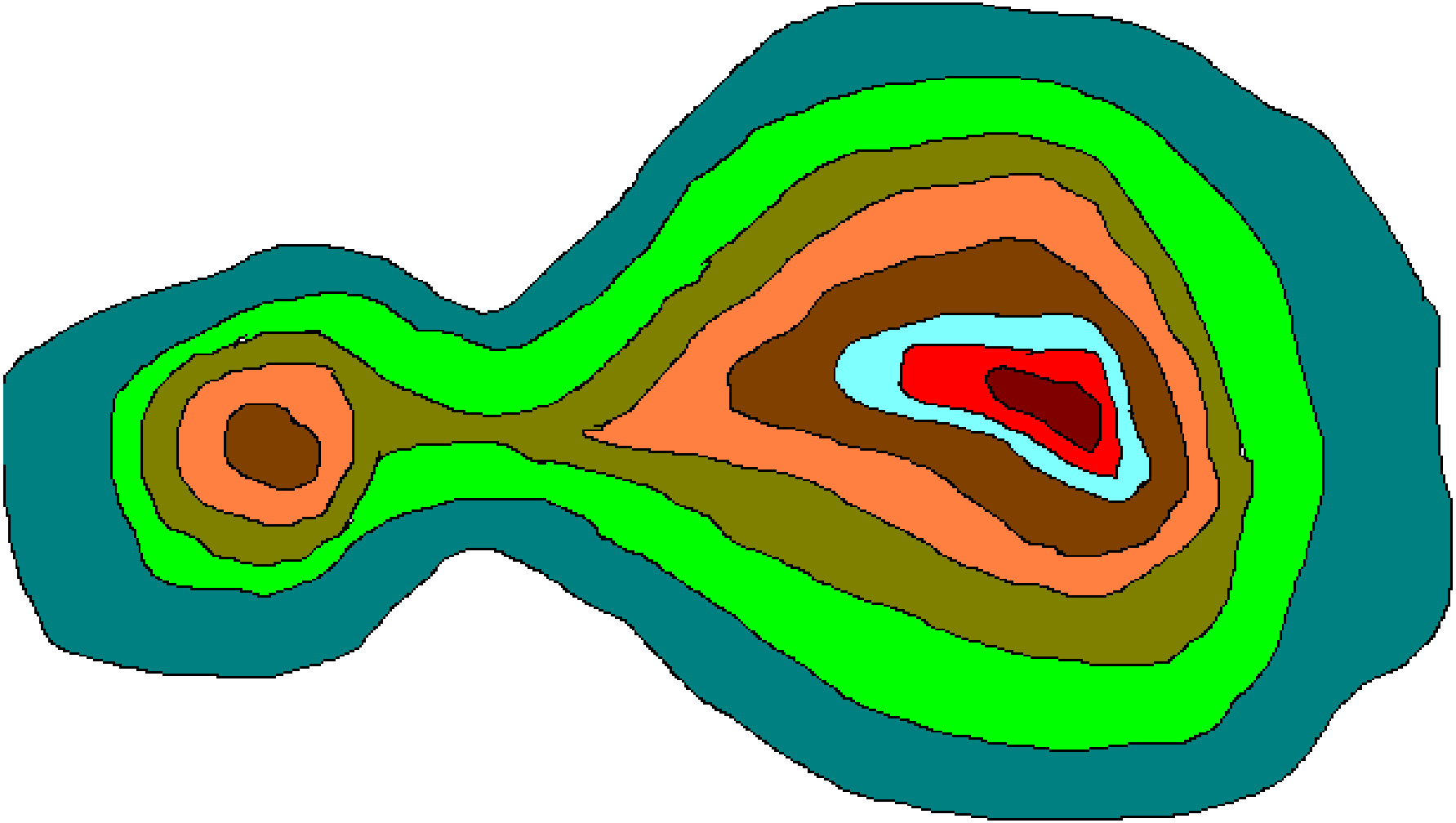
What's our elevation now?

If you said 50m or just under, you're right!

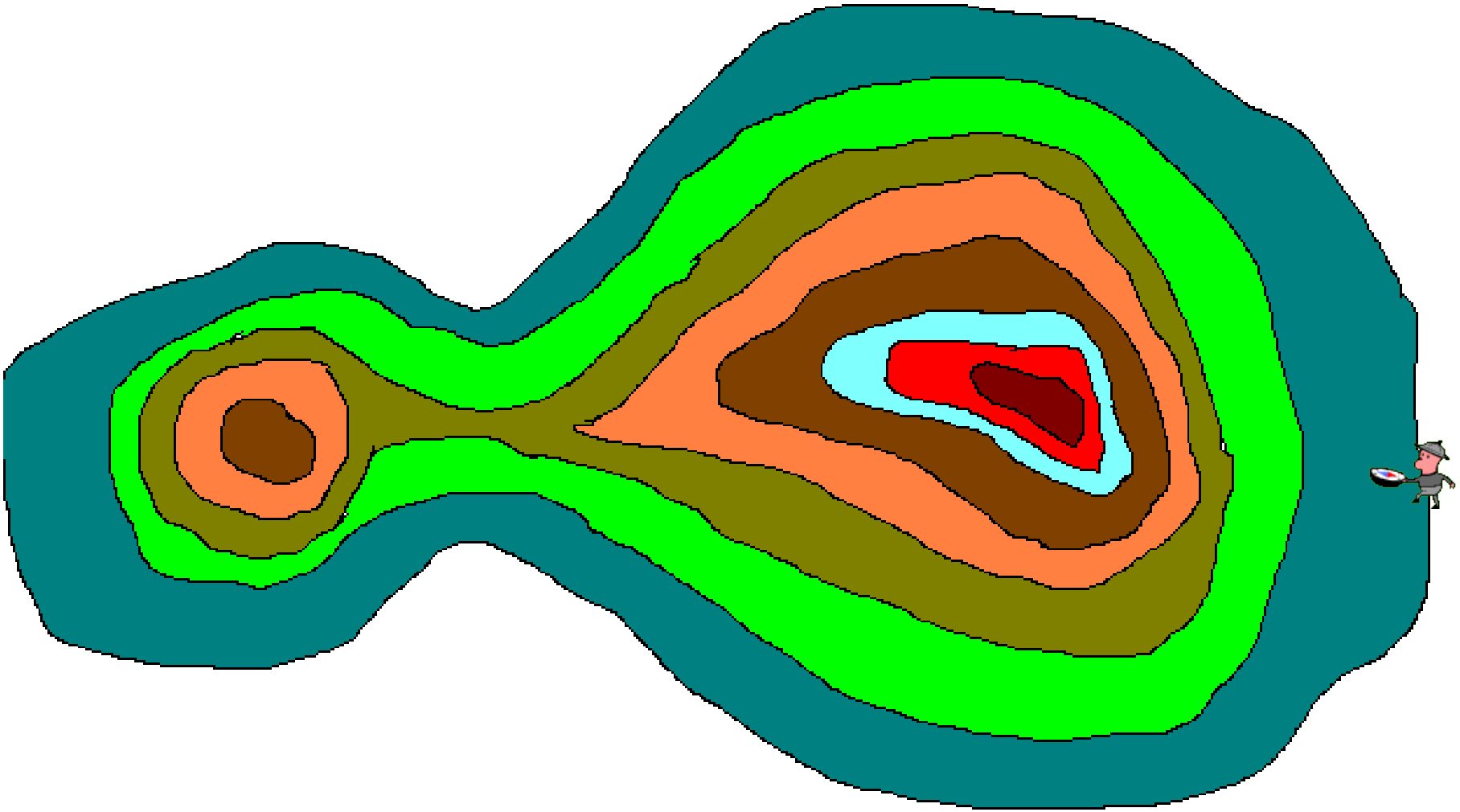


Let's
now look at the
same hill, but the
way we might see it
from an airplane!

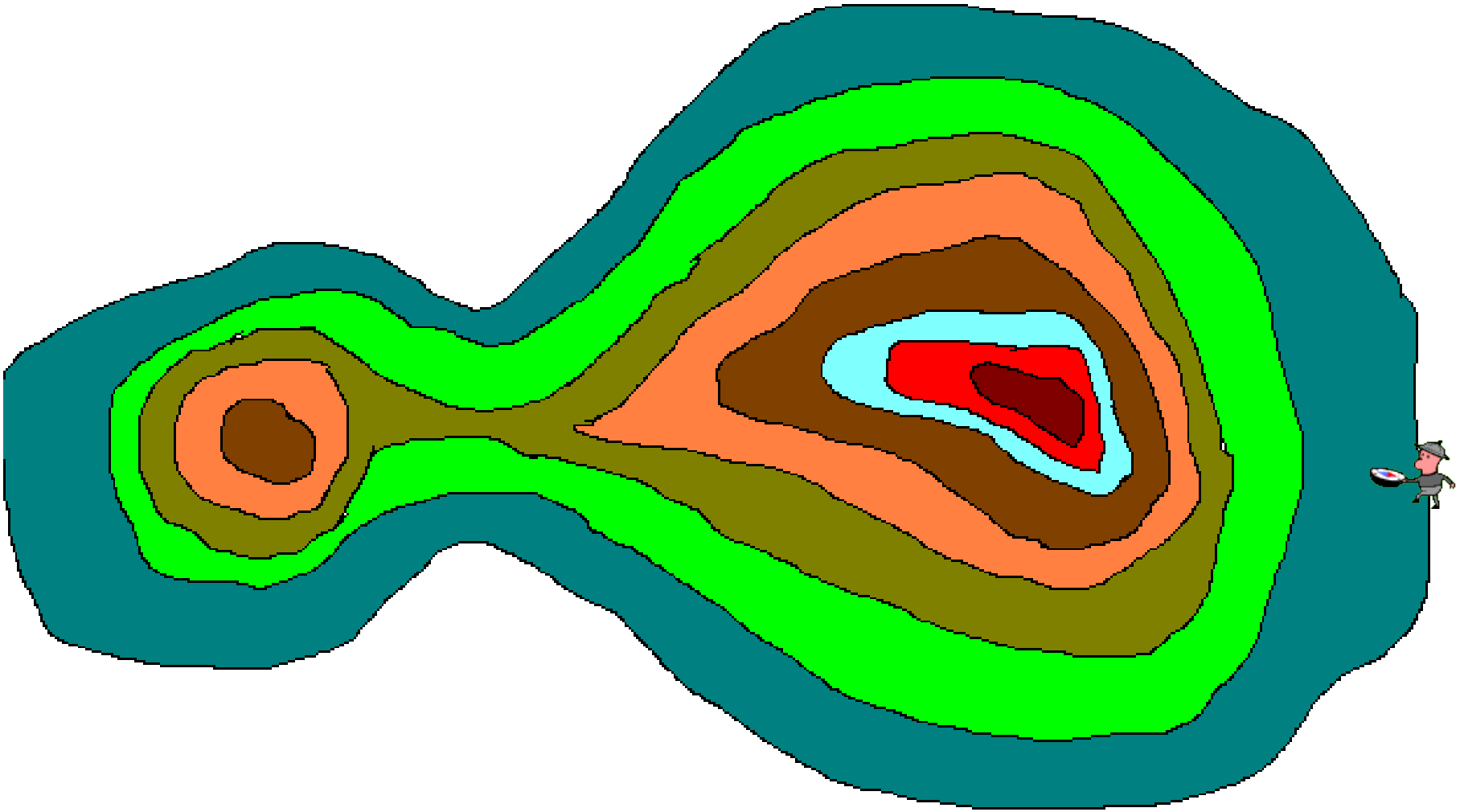
Each color change represents a 50 meter increase.



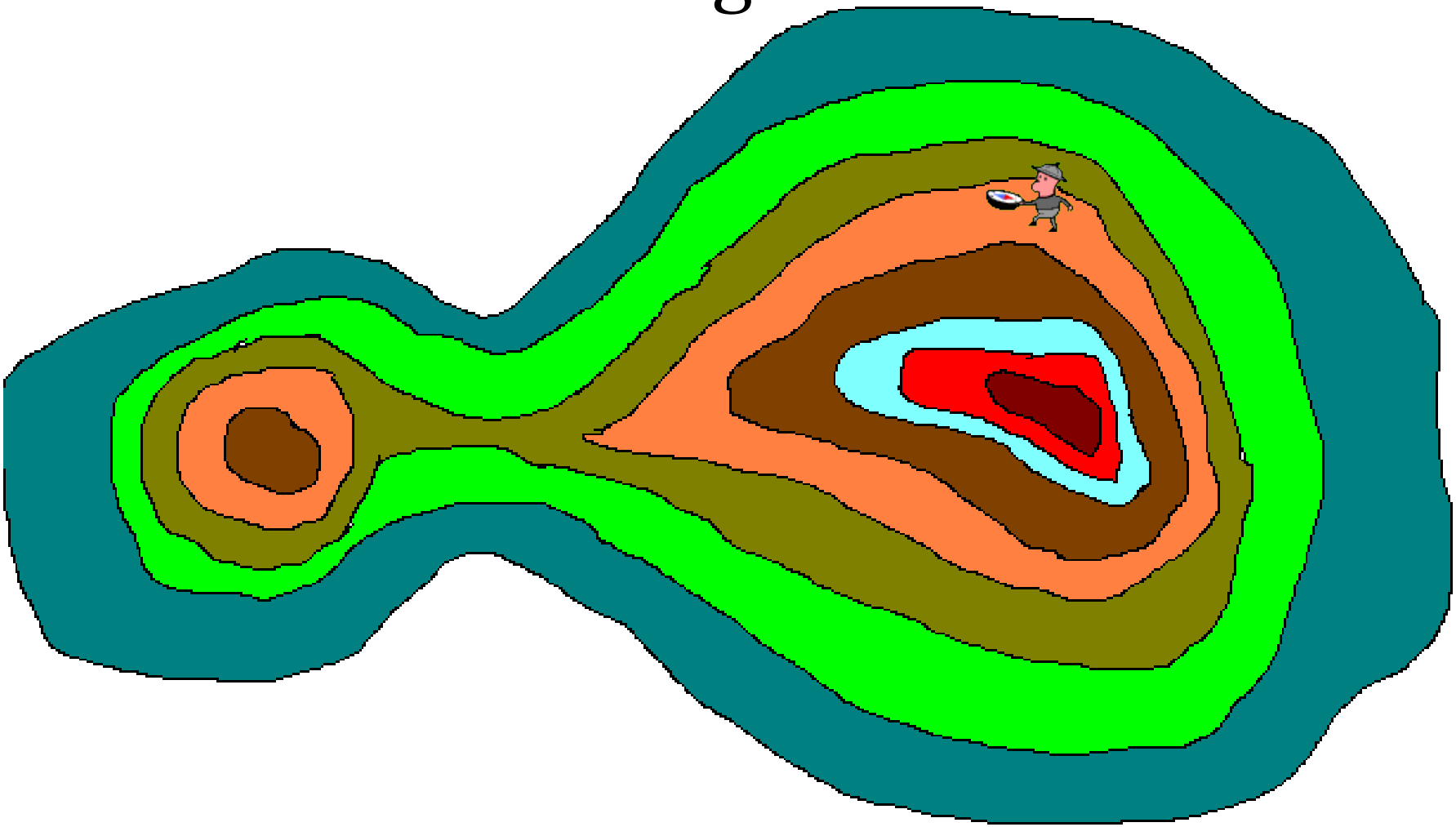
Now, let's try the same hike! Our elevation is 0 meters.



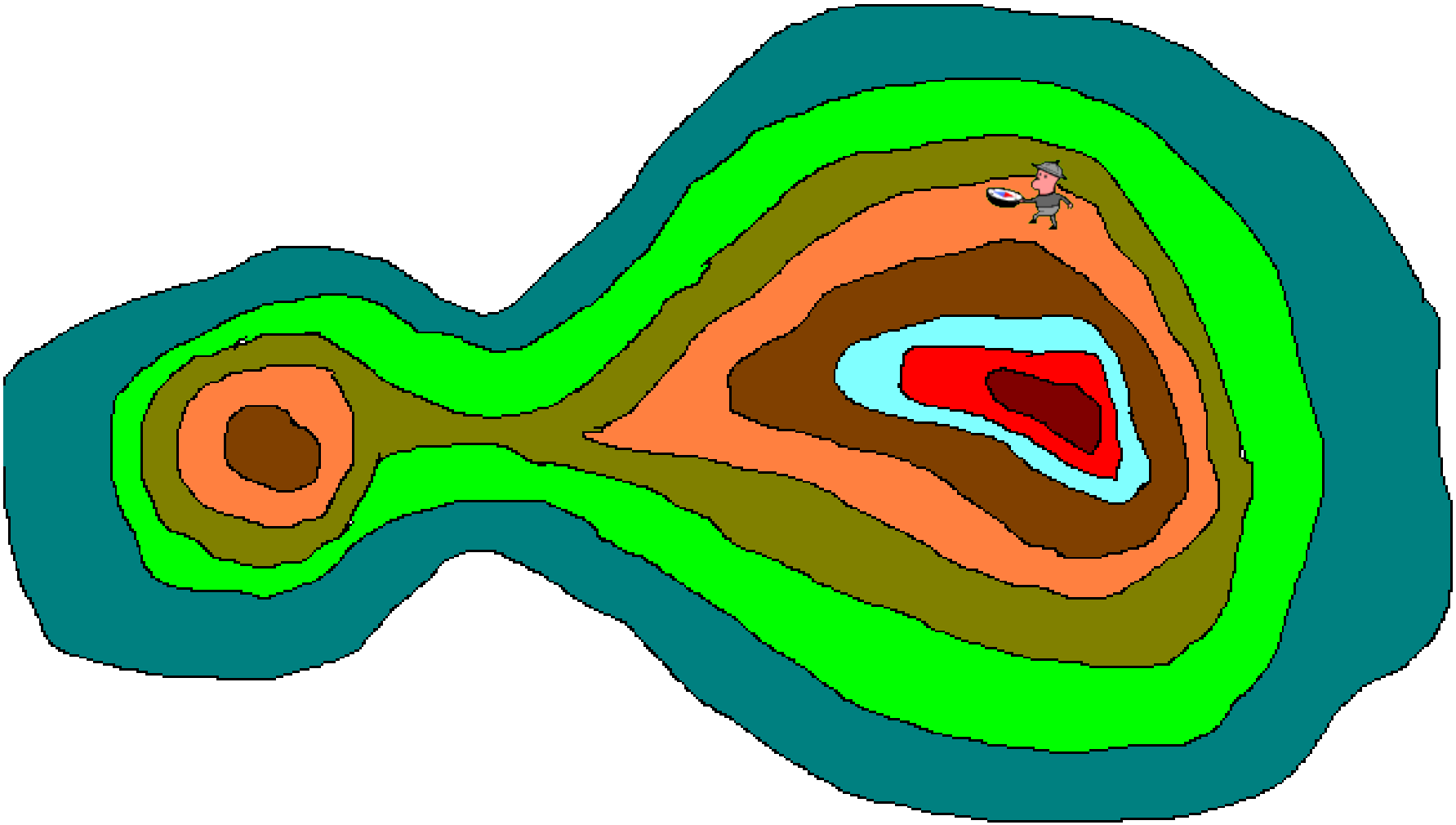
Now what is our elevation?



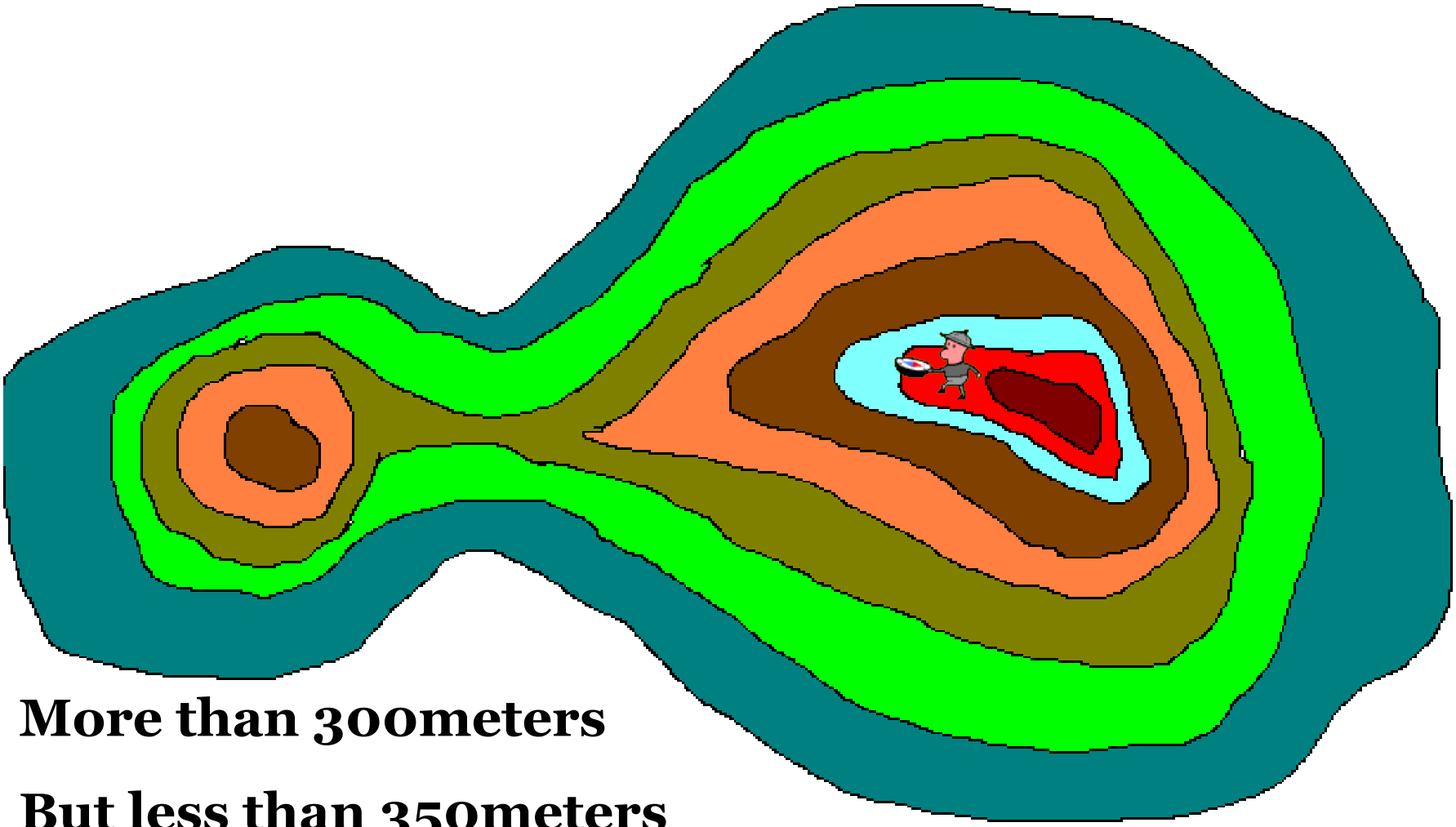
If you said more than 150 meters, but less than 200 meters your right!



Let’s go a little higher.



Think you know our elevation now?

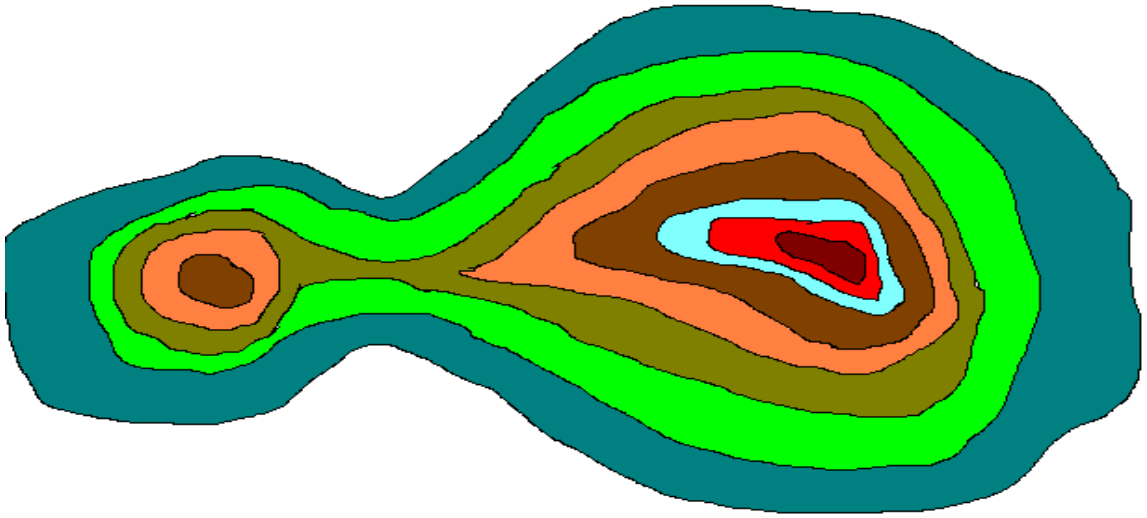


More than 300meters

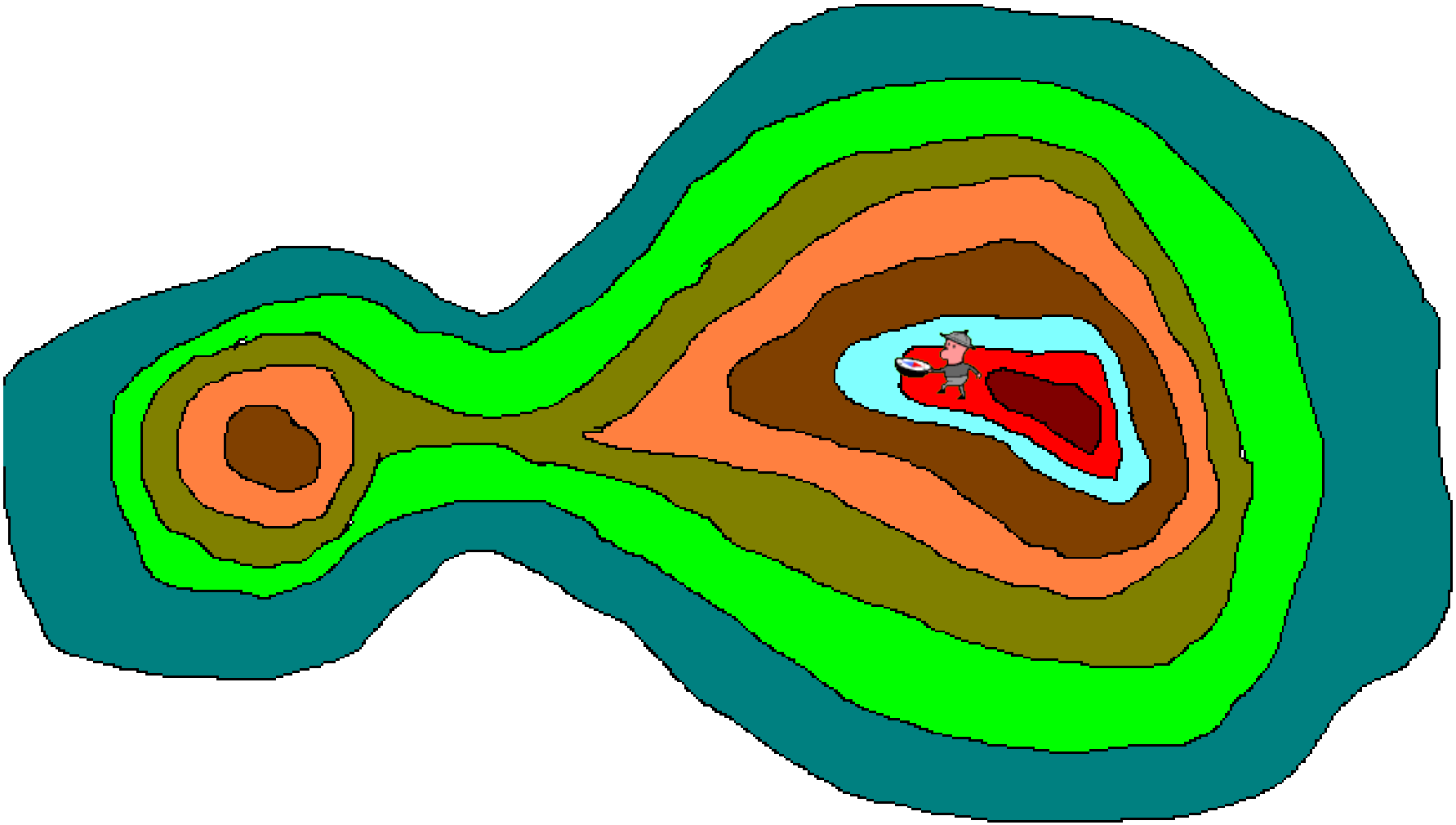
But less than 350meters

If we were standing on the peak, what would be our elevation?

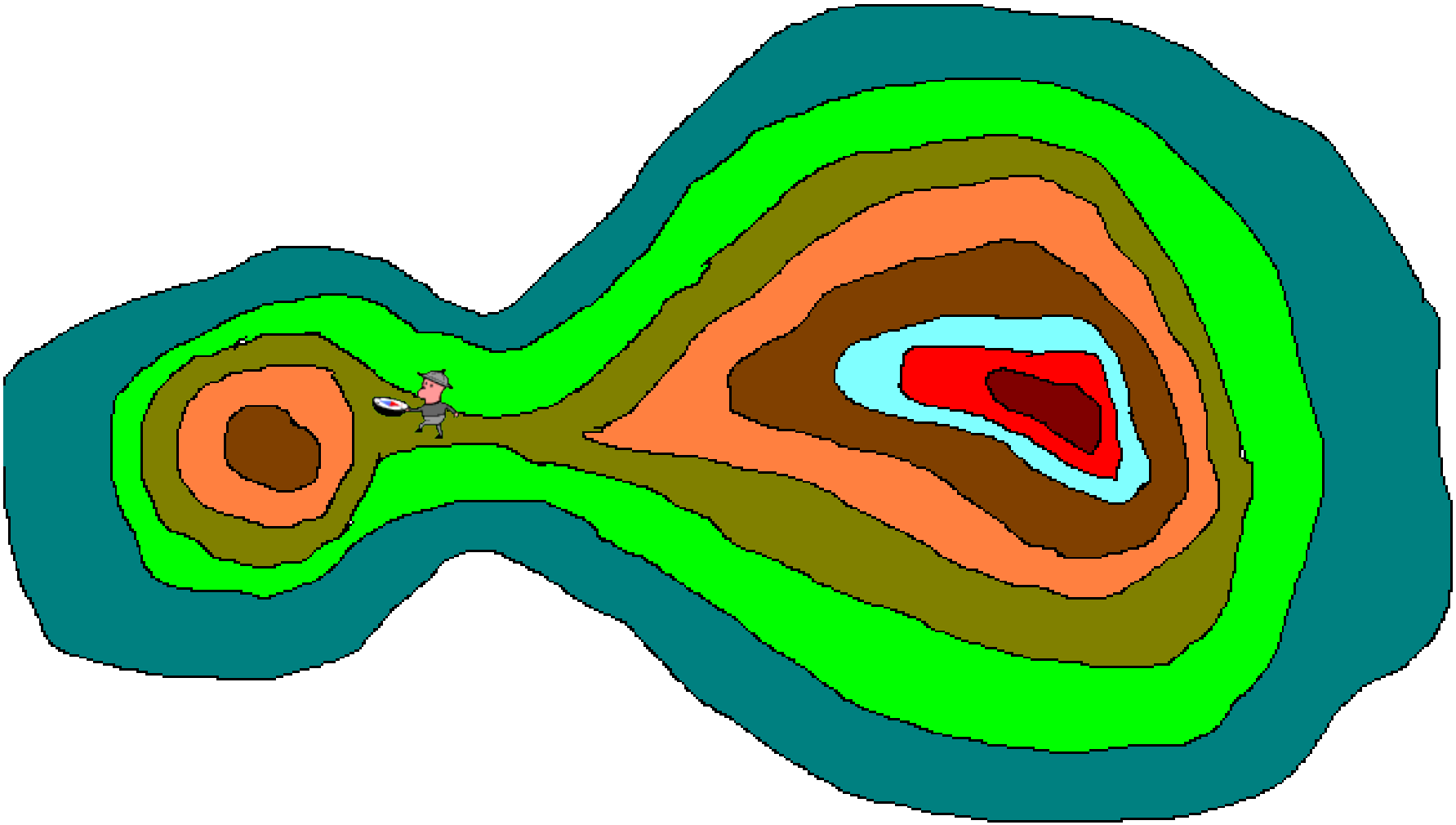
- More than 350 meters, less than 400 meters



Let’s head down hill.

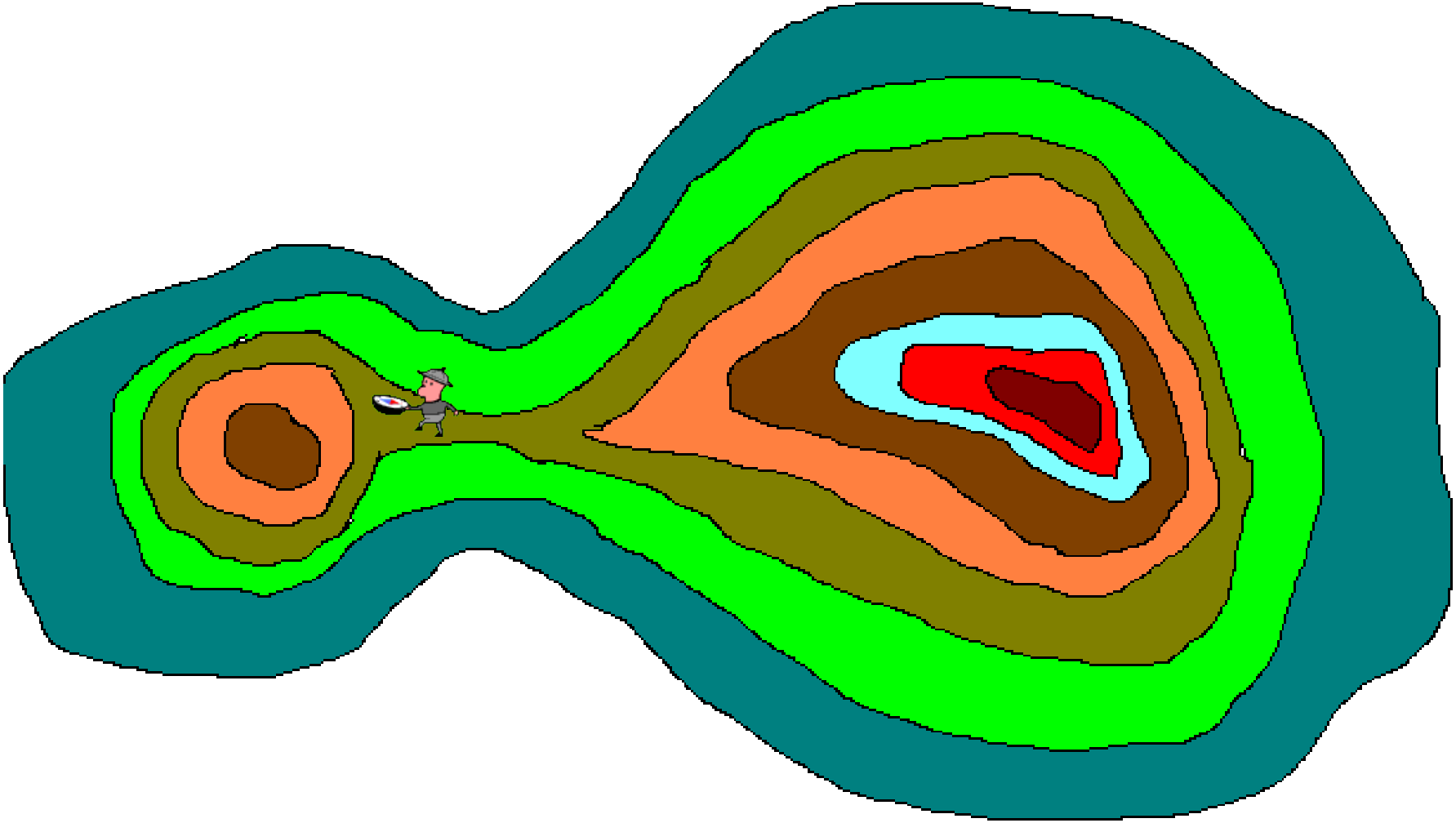


Know our elevation?



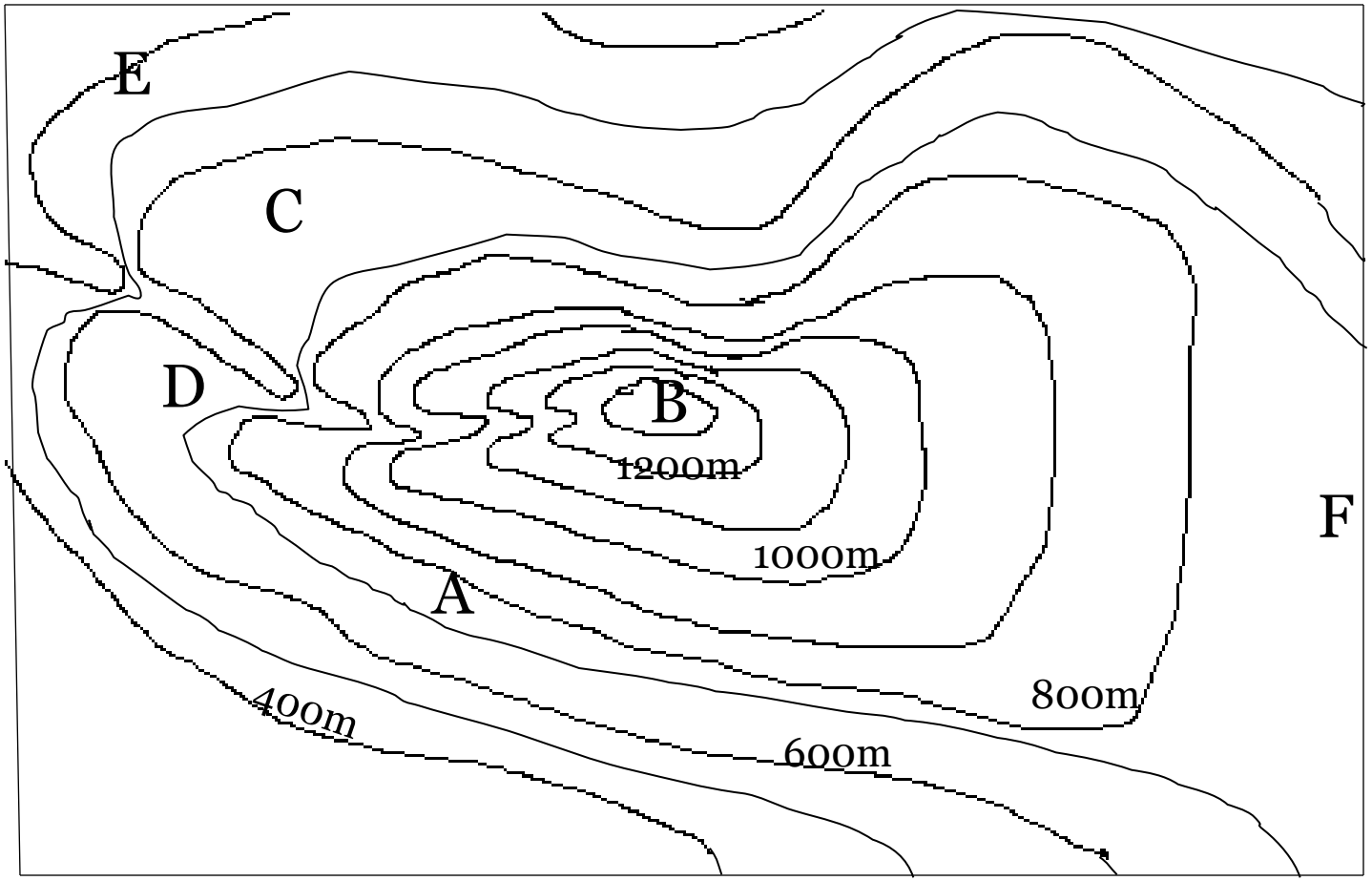
More than 100 meters,

less than 150 meters



I think you got it!

Let's see what you know.

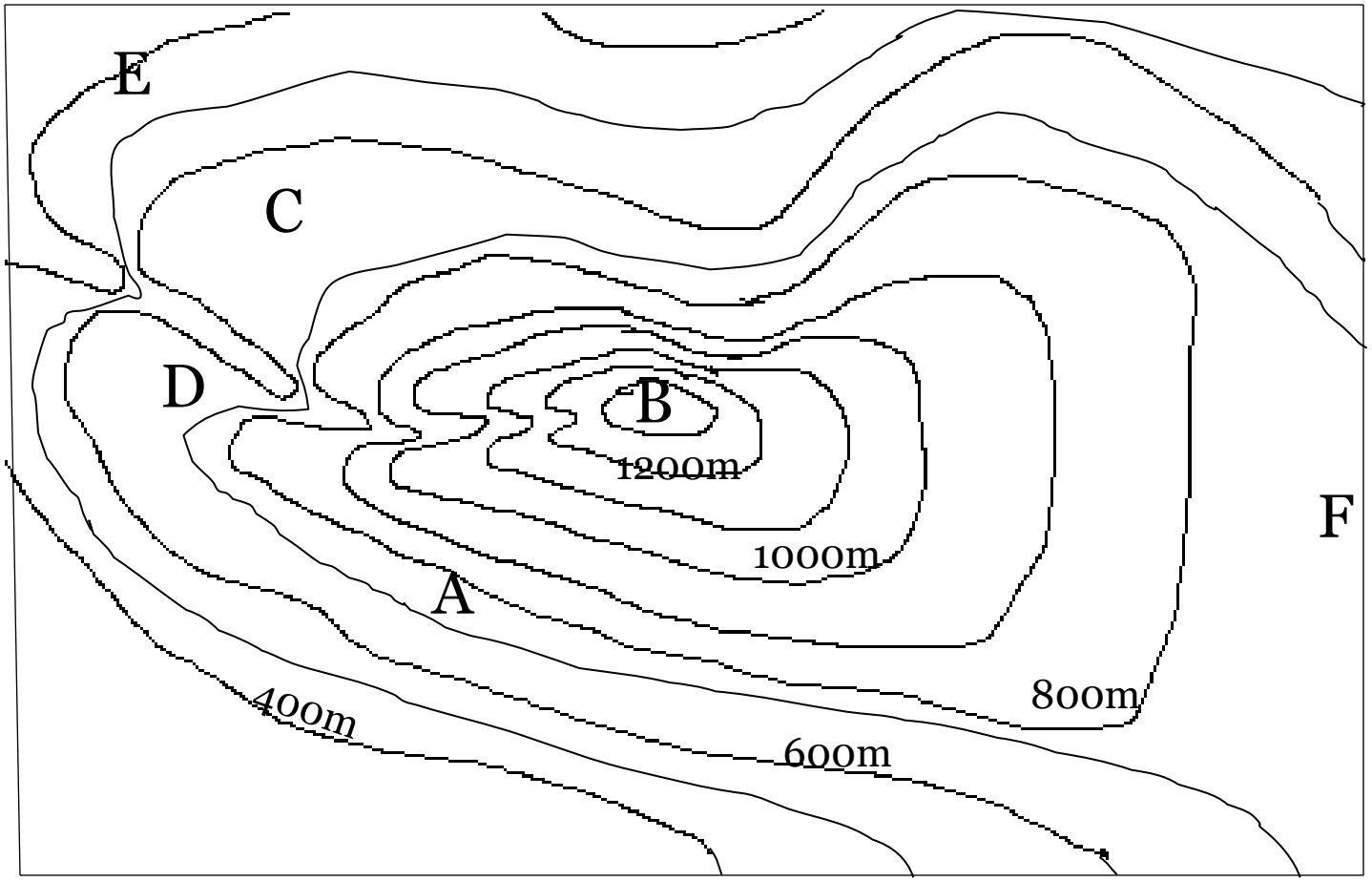


Quiz Time

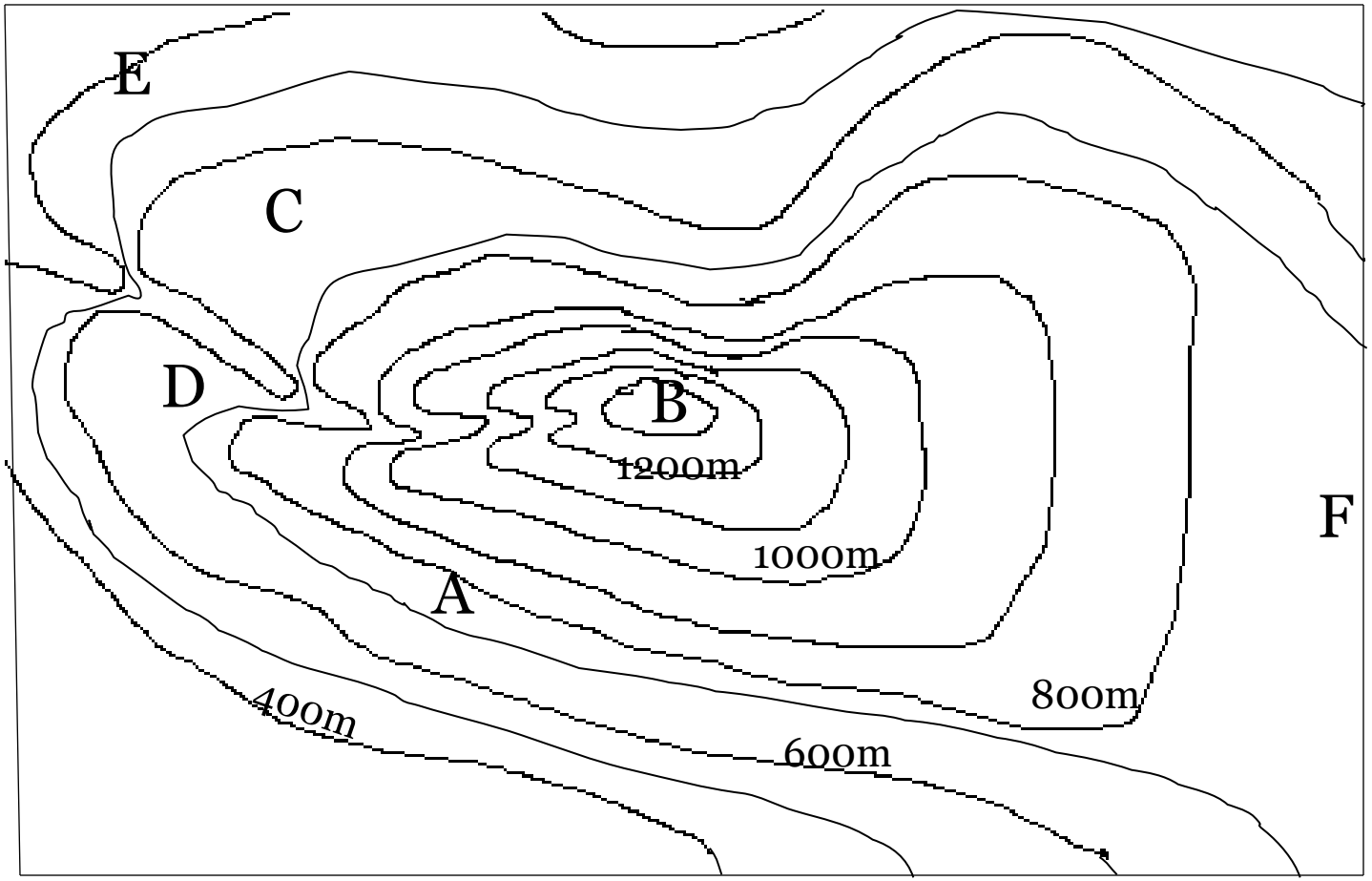
Grab a piece of paper and write your answers to the following questions.

Ready?

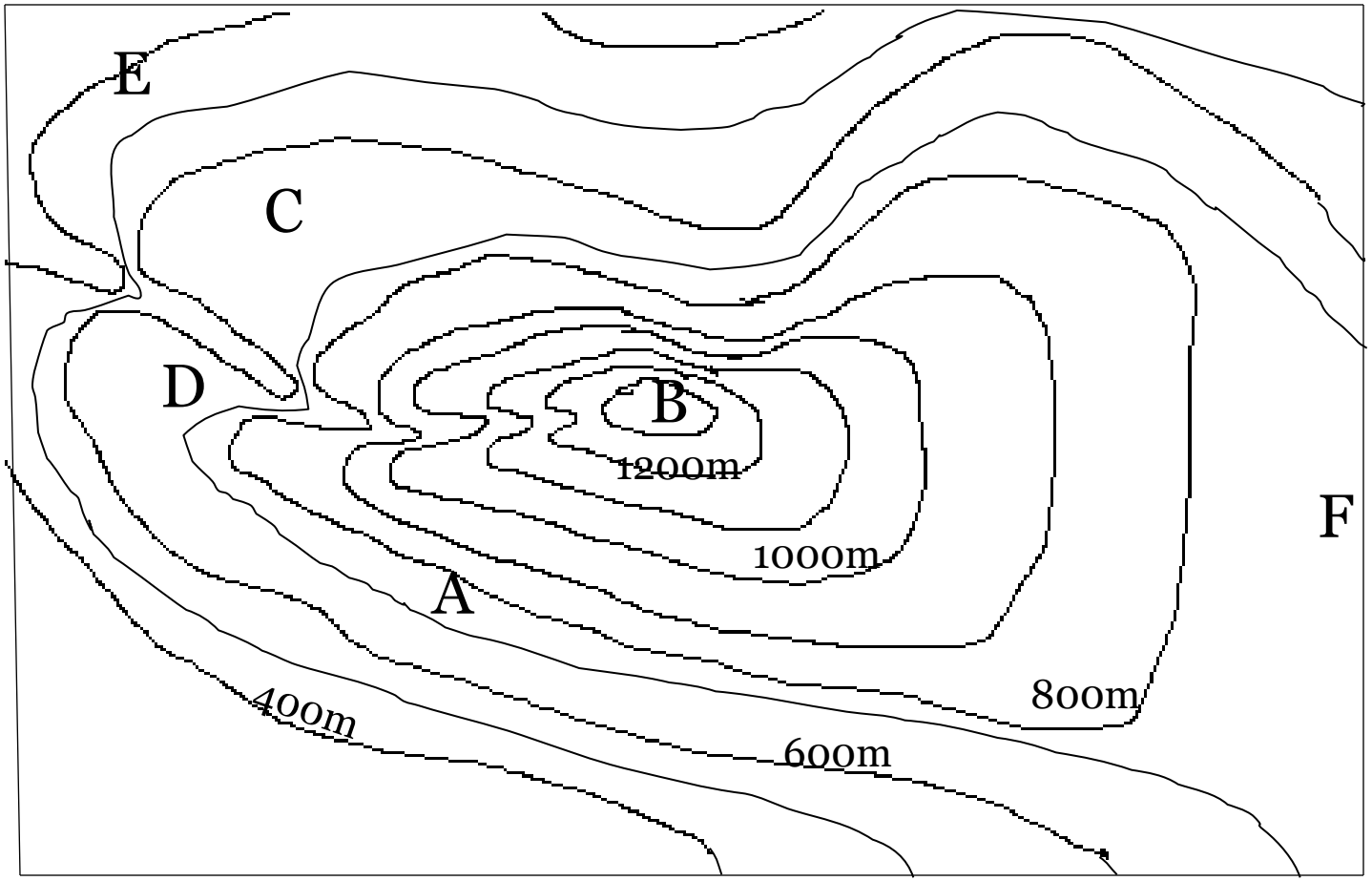
1. Could the elevation at the peak (B) be 1410 meters?



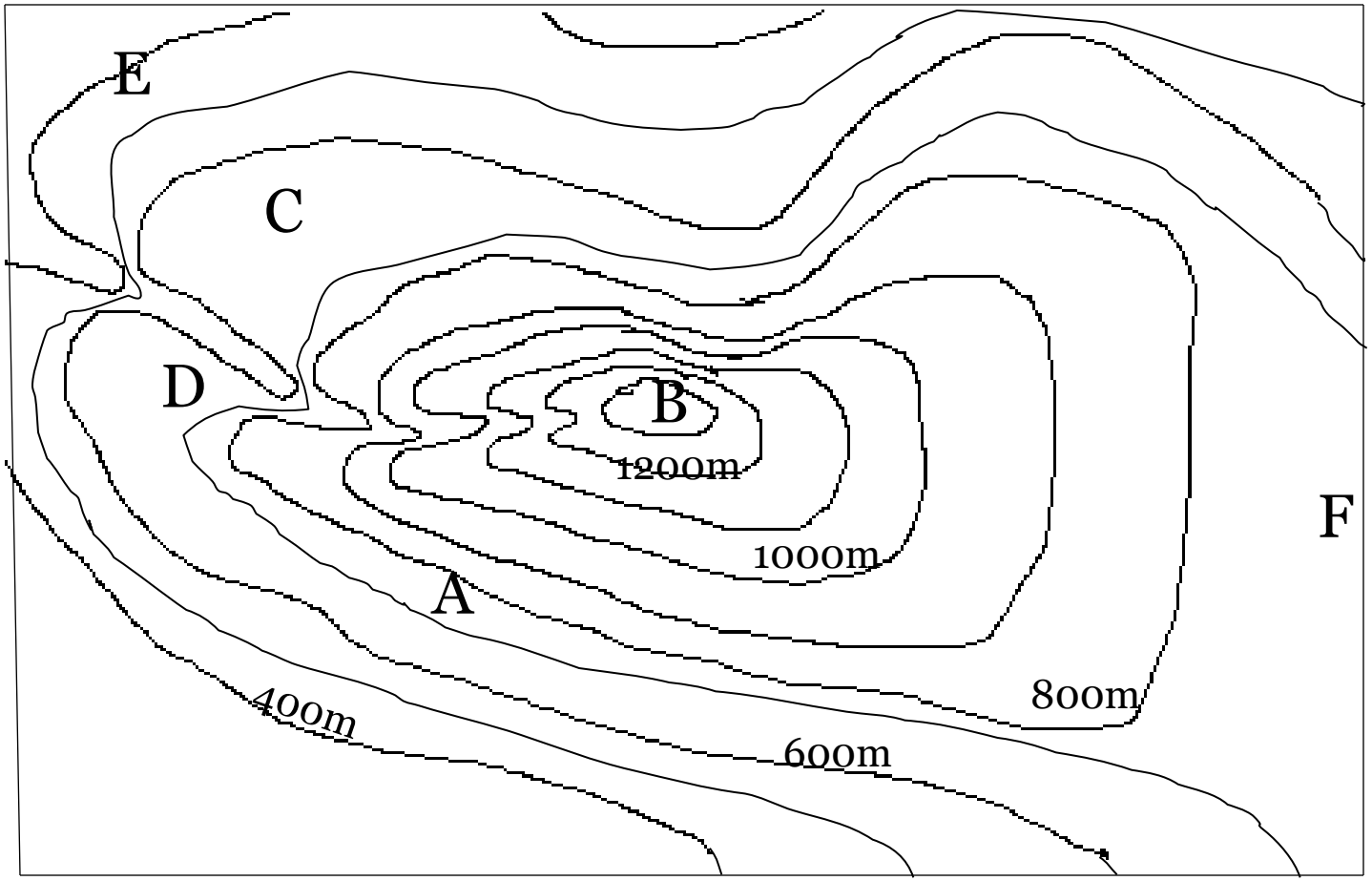
2. What is the elevation at (E)?



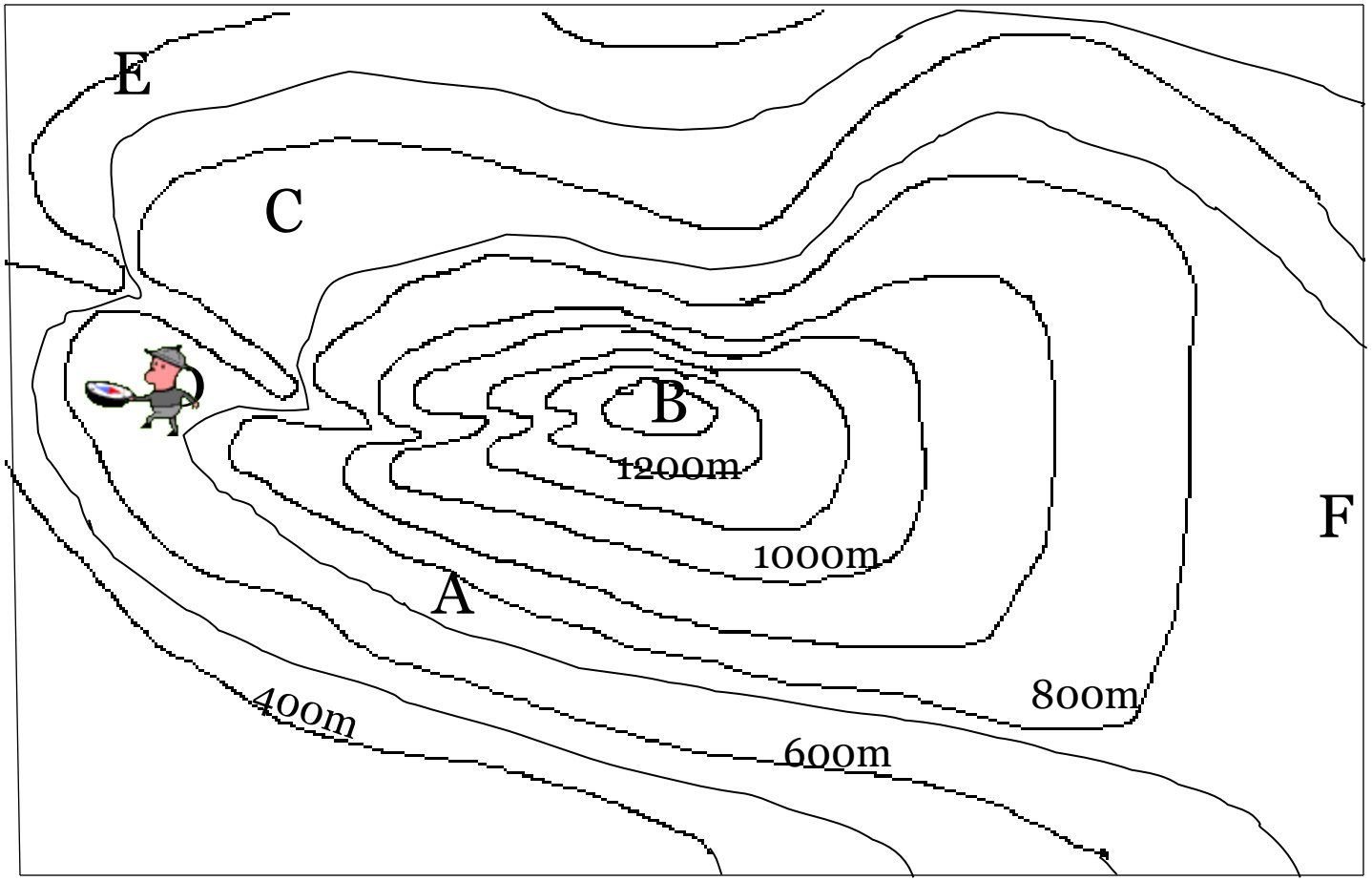
3.What is the elevation difference between (A) and (B)?



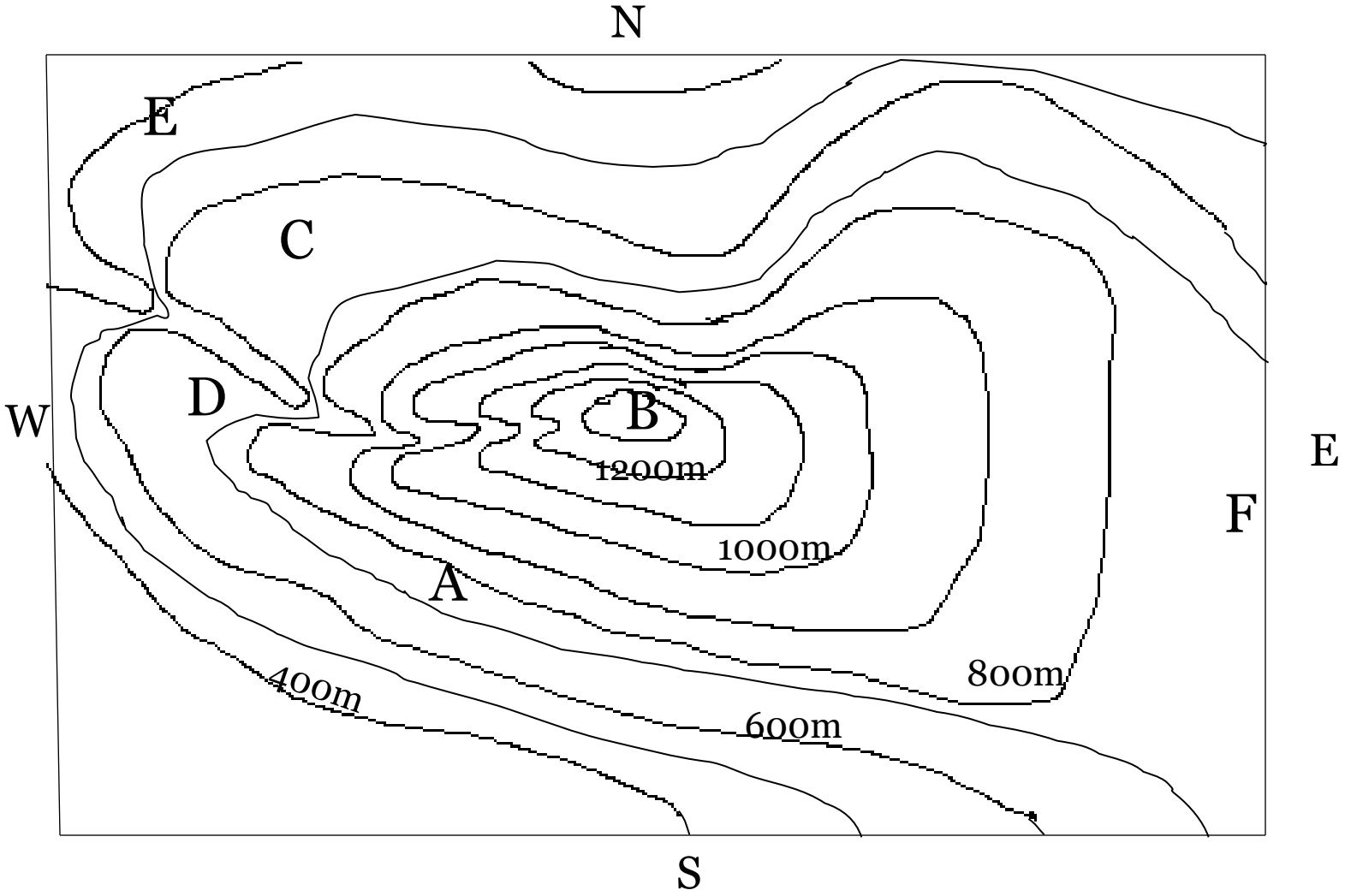
4. Could the elevation at (F) be 417 meters?



5. If you walked a straight line from (D) to (C) would you walk over a ridge or down a valley?



6.Just looking at the map, would it be easier to head down from the peak going East, or going North?



Answers!

- 1. No :The elevation must be under 1400 meters, but over 1300 meters.
- 2. about 400 meters

Answers!

- 3. (A) is probably close to the 750 meter line, (B) is above 1300 meters. The difference between the two would probably be 500-699 meters.

Answers!

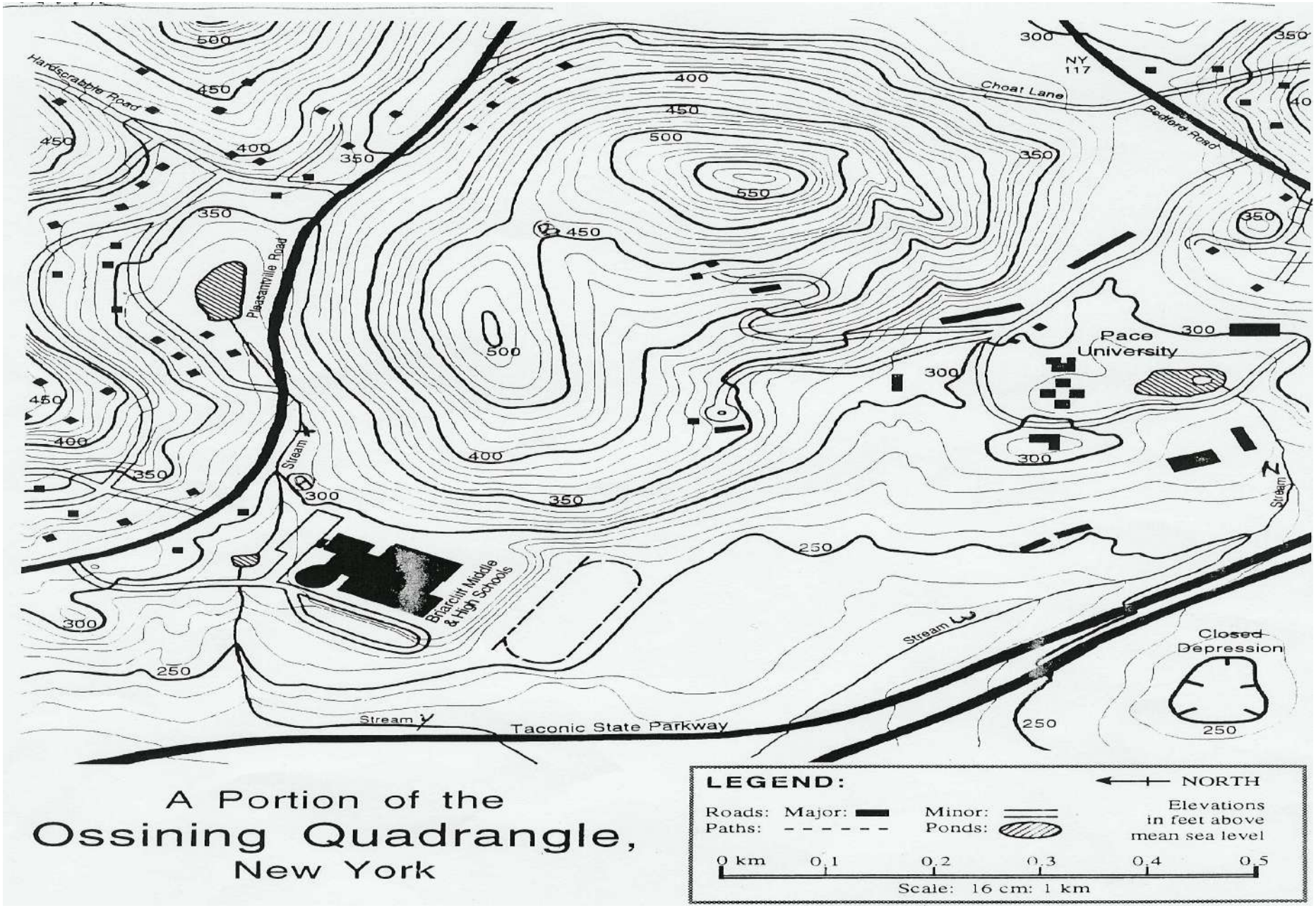
- 4. No: It must be more than 700 meters and less than 800 meters.
- 5. Down a valley: If the contour lines point up the slope it's a valley, if they point down the slope it's a ridge.

Answers!

- 6. East: When contour lines are close together that means there is a steep slope, the further apart the lines, the more gentile the slope and therefore an easier walk! Go east!

Things to know about Contour Maps:

1. ***Contour Interval*** – The difference in elevation represented by each contour line
2. ***Each line*** represents a different elevation in feet or meters.
3. ***The rule of the Contour V's -*** Streams and rivers flow opposite to the point of the V that is formed when a contour line crosses them.
4. ***Close contour lines*** means that there is a steep slope.
5. ***Contour lines that are far apart*** mean that the land is flatter.
6. ***Gradient = slope = change in elevation between two points***
7. ***Bulls eyes*** represent hills or mountains.
8. ***Hachured lines*** on bulls eyes mean depressions or valleys.
9. ***Places on the same contour line*** are at the same elevation.
10. ***A Profile*** is a side view or real representation of the topography of an area.



A Portion of the
Ossining Quadrangle,
New York

Ossining Quadrangle Questions

1. What is the ***elevation*** of Point A?

2. What is the ***elevation*** of Point B?

3. What ***direction*** does Stream X flow?

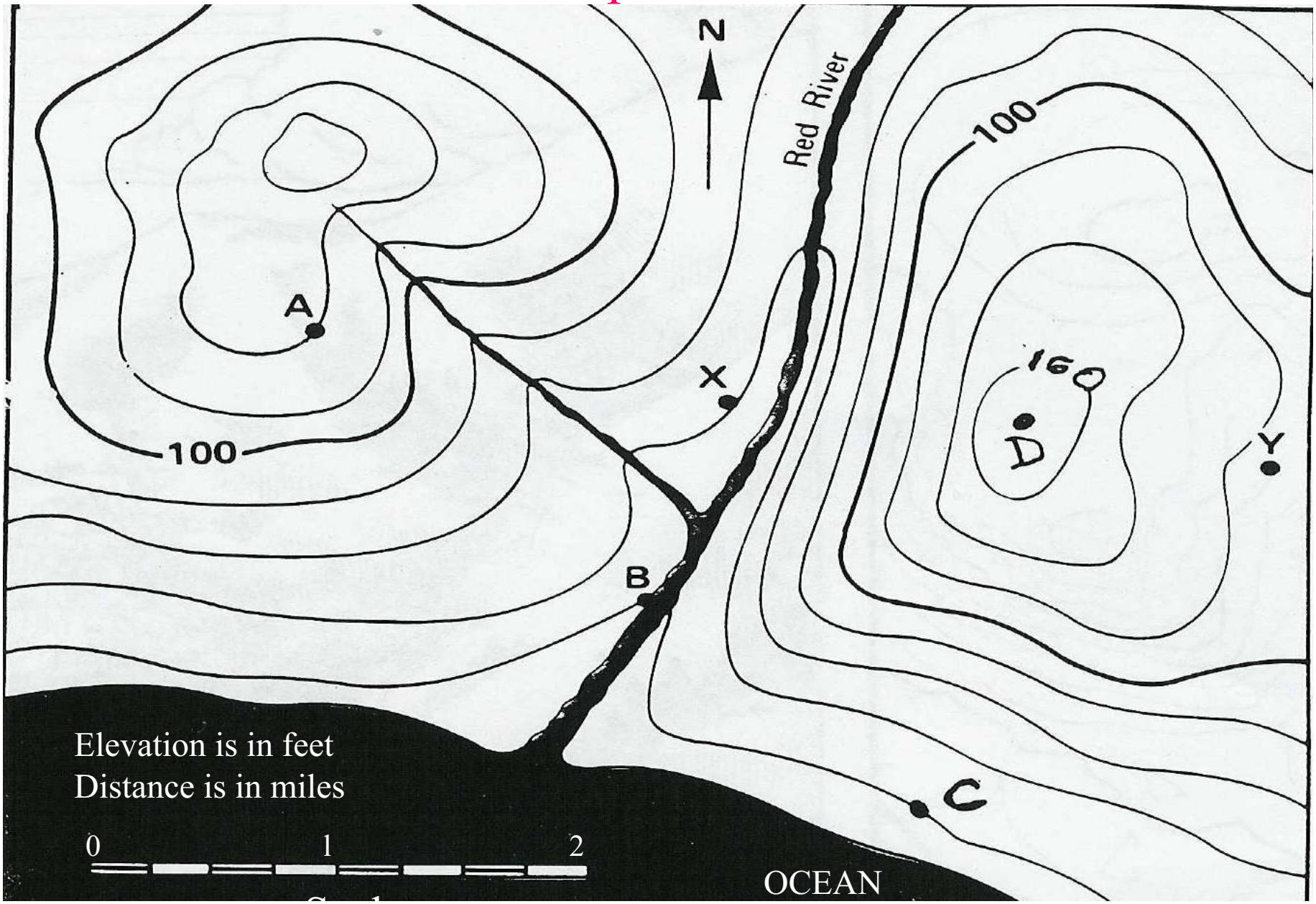
4. What is the ***gradient*** between A and B?

5. Below stream Y, what ***direction*** does the Taconic State Parkway run?

6. What side of Briarcliff High School has the highest ***gradient***?

7. What ***Quadrant*** is the ***depression*** located in?

Red River Map



Red River Map

1. What is the contour interval for this map?

1. What is the *elevation* of Point A?

2. What is the *elevation* of Point B?

3. What is the *elevation* of Point C?

4. What is the *gradient* between X and Y?

5. What is the elevation at point D?

5. What *direction* is Red River flowing?

6. What side of Hill D has the steepest/highest