
1.(1 pt) If Tom Bombadil's house is 15 miles east of Hobbiton and 8 miles south, what is the straight line distance (omit units)?

2.(1 pt) If the distance from the town of Bree to Weathertop is 13 miles on a 45 degree upward slope, what is the elevation gain (omit units)?

3.(1 pt) Frodo and Sam are studying a topographic map of Mordor. Place the letter describing contour lines on a map to the left of the number describing a possible goal.

- 1. If Frodo and Sam want to find the River Anduin, they should look for:
 - 2. If Frodo and Sam want to find Mount Doom, they should look for:
 - 3. If Frodo and Sam want to go directly uphill, they should go:
 - 4. If Frodo and Sam want to find a level route, they should look at:
 - A. Perpendicular to the contour lines
 - B. Parallel contour lines
 - C. Single contour lines
 - D. Concentric contour lines
-

4.(1 pt) The nine Ring Wraiths want to fly from Barad-Dur to Rivendell. Rivendell is directly north of Barad-Dur. The Dark Tower reports that the wind is coming from the west at 50 miles per hour. In order to travel in a straight line, the Ring Wraiths decide to head northwest. At what speed should they fly (omit units)?

5.(1 pt) As Aragorn views the Dark Lord in a crystal ball of radius 5, he realizes that:

The surface area of the ball equals:

The volume of the ball equals:

6.(1 pt) As Gandalf falls into the depths of Moria, he begins to spin. If he wishes to slow his rate of spinning, he should do which of the following (type the appropriate letter)?

- A. Hug Himself
 - B. Think of Galadriel
 - C. Wiggle His Nose
 - D. Spread his arms wide
 - E. Think of Sauron
-

7.(1 pt) The population of Elves in Lorien is constant. If five Elves per day cross outward over the boundary of Lorien, and none ever return, then we can conclude that Elves in Lorien are being:

- A. Born
 - B. Attracted by the promise of a better life
 - C. Anti-social
 - D. Persecuted
-

8.(1 pt) In the land of Mordor, where the shadows lie, it is afternoon.

In which direction do the shadows point? You may assume that the Earth's axis of rotation is perpendicular to its plane of revolution about the sun. Type N, S, W, or E as appropriate.

Type C, D, or I depending on whether the lengths of the shadows are constant, decreasing, or increasing.

9.(1 pt) Two dwarves decide to bore a tunnel through the center of the earth, connecting the mines of Moria with its antipode. They each have identical drills. One dwarf begins drilling from Moria and the other dwarf begins drilling from the antipode. When they meet at the center of the earth, are their two drills turning in the same direction? Type Y if yes, N if no.
