

Rescue the Princess

Name _____

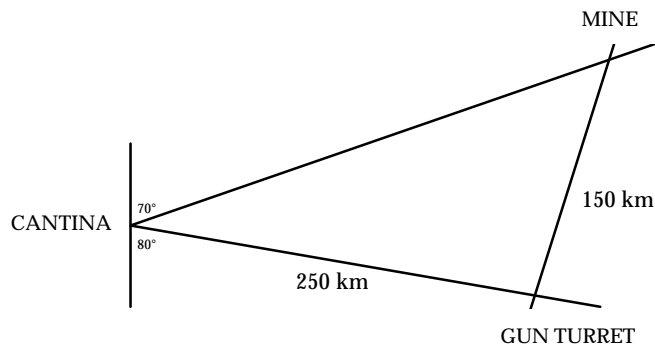
While having lunch at the Cantina, Darth Vader learns that Princess Leia is trapped in the Tobanna Gas Mine. The evil Lord Vader devises a plan.

A deserted Gun Turret is 250 km. from the Cantina in the direction S80°E. Vader can reach the Gun Turret in a half hour, launch a laser missile, and blow up the gas mine – and with it, the Princess. Vader takes off to do the deadly deed.

Unbeknownst to Vader, our hero Luke Skywalker overhears the plan. The Tobanna Gas Mine is in the direction N70°E from the Cantina. Assume no telecommunications system. Also note that Luke's landspeeder can travel no faster than 500 km/hr.

Complete the blanks:

LUKE: I only have a half hour before Leia gets fried. . .
He draws the following figure on his napkin:



By my calculations, Leia is about _____ km away.
Show the calculations:

This means that I have to travel _____ km/hr in my landspeeder to reach her in a half hour. Therefore, assuming the above figure is correct, . . .

Circle the scenario which would be an appropriate conclusion from the above analysis:

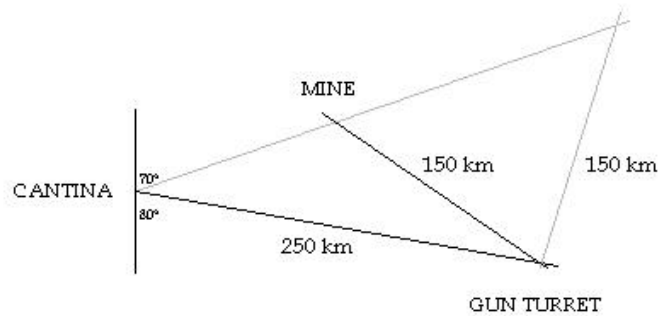
A. Luke: I can just reach her in time!
(Luke drops some money on the table and races off to save Leia.)

B. Luke: Drat! I'll never reach her in a half hour!
(Luke orders another round of drinks to drown his sorrows.)

Luke then hears a small voice inside his head – the voice of Obi Wan Kenobi:

Obi Wan: Luke! Remember the ambiguous case.

Luke immediately sees a new image appear on his napkin:



Luke: There could be more time than I thought!
She might be only _____ km away!

EXTRA CREDIT:

1. Complete the blanks.

A Half Hour Later:

Vader: I've arrived at the Gun Turret, but there's ammo for only one missile.
I could set the bearing at N _____° E or N _____° W.
Show calculations below on how you arrived at these bearings:

I sense a presence in the Force at the bearing of _____
(PICK ONE: student's choice)
It's entirely up to you!

2. Rewrite the story (typed) on an attached sheet in any way you would like.
You may make it a happy ending or a sad one.