

# Me seek death assignment



**ASSIGN  
BUSTER**

Triangle Skills to Solve Problems For each word problem below, you must draw a picture and show your work towards a solution. Solutions are given for each problem. Since these are real-life type problems, answers should be decimal approximations as opposed to being in simplest radical form. You are allowed to use anything you know about triangle similarity, right triangles and right triangle trigonometry. This assignment is a learning target and is required to pass this semester.

P = Do these problems if you want a Proficient score for this learning target

HP = Do Hess problems if you want a Highly Proficient score for this learning target

A = All students are required to do these problems

P 1) A soccer ball is placed 10 feet away from the goal, which is 8 feet high. You kick the ball and it hits the crossbar along the top of the goal. What is the angle of

elevation of your kick? (38. 70) P 2) If a person 5 Ft 10 inches tall casts a 7

Ft. 4 inch shadow, how tall is a person who casts a shadow 6 Ft. 8 inches

long? Put answer in feet and 4 inches) P 3) Michelle delivers books to school

libraries. Her truck has a slide out ramp for unloading the books. The top of

the ramp is 3 feet above the ground. The ramp itself is 5. 2 feet long. What is

the horizontal distance the ramp reaches? Also, what is the angle of

elevation of the ramp? (4. 25 Ft. ; 35. 20) A 4) An airplane is at an elevation

of 35, 000 Ft. When it begins its approach to an airport. Its angle of descent is 60. What is the horizontal distance between the plane and the airport?

Also, what is the approximate air distance from the plane to the airport? 63

miles; 63. 4 miles) P 5) Pete has a 15-foot ladder. The safety instructions

recommend he should have the base of the ladder 6 feet from the base of the

wall he will lean the ladder against. How high will the ladder reach on the

wall? (13.75 feet) A 6) A lighthouse keeper observes that there is a 30° angle of depression between the horizontal and the line of sight to a ship. If the keeper is 19 meters above the water, how far is the ship from shore? (362.5 meters) opposite bank. (90 meters) HP 8) Mart is standing 4 ft. behind a fence 6 ft. 6 inches tall.

When she looks over the fence, she can just see the top edge of building. She knows that the building is 32 ft. behind the fence. Her eyes are 5 ft. from the ground. How tall is the building? Give your answer to the nearest half-foot. (See diagram below) (18.7 feet) A 9) A 25-foot ladder is placed against a building. The bottom of the ladder is 7 feet from the building. If the top of the ladder slips down 4 feet, how many feet will the bottom slide out? (slipped 8 feet) A 10) Driving through the mountains, Dale has to go up and over a high mountain pass.

The road has a constant incline for 7 miles to the top of the pass. Dale notices from a road sign that in the first mile he climbs 840 feet. What is the height of the mountain pass? (5280 feet = 1 mile). Also, how steep is the incline in degrees? (Answer in feet) (6510 ft. ; 9.20) HP 11) You want to hang a banner that is 29 ft. tall. You are thinking of hanging it outside from the third floor of your school, but need to measure to see if it will fit there. The trouble with measuring the direct distance is that there is a large 6 ft. tall bush in the way at the base of the school building.

You throw a 38 ft. long rope out the window to a friend on the ground. She walks away from the building until the rope is taut. Upon measuring, she finds the angle of elevation of the rope to be 70°. Will the banner fit on the

wall and be completely above the bush? How much space will there be between the top of the bush and the bottom of the banner? (Banner will fit with .7 off foot to spare) HP 12) Chris is mailing his friend a poster that has been rolled up in a long tube. He has a box that measures 20 inches by 8 inches by 4 inches. What is the maximum length the rolled poster can be? Where you label the dimensions on your drawing on the box won't affect your answer) (21.7 inches) HP 13) Elena is standing on a plateau that is 800 Ft. Above a basin where she can see two hikers. The angle of depression from her line of sight to the first hiker is 25° and to the second hiker is 15°. How far apart are the two hikers? (1270 feet) HP 14) The front and back walls of an A-frame cabin are isosceles triangles, each with a base 10 m and sides of 13 m. The entire front wall is made of glass that cost \$120/mm. What did the glass for the front wall cost? (\$7200) angle of elevation of the sun was 55°, the length of the shadow cast by this flagpole as 210 Ft. Find the height of the flagpole to the nearest foot. Also, what was the length of the shadow when the angle of elevation of the sun was 34°? (300 feet; 444.8 feet) A 16) International rules of basketball state the rim should be 3.05 meters above the ground. If your line of sight to the rim is 34° and you are 1.7 meters tall, what is the horizontal distance from you to the rim? (2 meters) P 17) Eagleburger is 17 miles south of Linebacker, and Linebacker is 5 miles west of Pueblo.

Carson lives nine miles north of Linebacker. How many miles will Carson have to drive altogether from his home to Eagleburger if he stops in Pueblo on the way? (Make sure he goes the shortest distances possible) (28 miles) P 18) A student looks out of a second-story school window and sees the top of

the school flagpole at an angle of elevation of  $22.0^\circ$ . The student is 18 Ft. Above the ground and 50 Ft. From the flagpole. Find the height of the flagpole. (38. 2 Ft. ) HP 19) You need to add 5 supports under the ramp, in addition to the 3. 6 meter one so that they are all equally spaced. You should have six supports in all.

How long should each support be? Also, what is the angle of descent of the ramp? (22.0) A 20) A 17-foot wire connects the top of a 28-foot pole to the top of a pole. What is the shortest length of wire that you could use to attach the top of the short pole to the bottom of the tall pole? (25 feet) A 21)

Juanita, who is 1. 82 meters tall, wants to find the height off tree in her backyard. From the tree's base, she walks 12. 20 meters along the tree's shadow to a position where the end of her shadow exactly overlaps the end of the tree's shadow. She is now 6. 1 meters from the end of the shadows.

How tall is the tree? (5. 46 meters) HP 22) A giant California redwood tree 36 meters tall cracked in a violent storm and fell as if hinged. The tip of the tree hit the ground 24 meters from the base. Researchers wished to investigate the crack. How many meters up from the base of the tree would they have to climb? (10 feet) HP 23) George is looking out from a window 30 feet above the street. The angle of elevation is  $50.0^\circ$  to the top off building across the street. The angle of depression to the base of the same building is  $20.0^\circ$ . Find the height of the building across the street. (128. 2 Ft)