Trig Word Problems

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_

Algebra 2 with Trigonometry

Solve the following word problem. Show your all your work and round to 2 decimal places.

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| 1. Katie sees an airplane in the sky from her spot on the ground. The angle of elevation from Katie to the airplane is $35°$. If she steps back 100 feet, the new angle of elevation is $15°.$

http://tell.cla.purdue.edu/JapanProj/FLClipart/Nouns/vehicle/airplane2.gifhttp://www.onlycoloringpages.com/wp-content/uploads/2015/11/Coloring_Page_Hot_Air_Balloon_02.png1. Solve for y.

$$x$$https://s-media-cache-ak0.pinimg.com/564x/64/7a/44/647a44f50cca3b67b89fee7148d8448d.jpg$$15°$$$$35°$$$$y$$$$100 ft$$ \_\_\_\_\_\_\_\_\_\_\_1. If Katie is 5.75 feet tall, how far off the ground is the airplane?

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| 1. Frankie sees a UFO in the sky from his spot on the ground. The angle of elevation from Frankie to the UFO is 50°. In fear, he runs back 300 feet. His new angle of elevation is 20°.

https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcR8HfxR46jUYGNx-SQvg6ZjAJcD0LrL7qWnQE_aS_YSMNFcGczmhttp://tell.cla.purdue.edu/JapanProj/FLClipart/Nouns/vehicle/airplane2.gifhttp://www.onlycoloringpages.com/wp-content/uploads/2015/11/Coloring_Page_Hot_Air_Balloon_02.png1. Solve for y.

$$x$$http://images.clipartpanda.com/boy-clipart-stick-figure-b38ef65c9a450763be2449f35ad7933f.jpghttps://s-media-cache-ak0.pinimg.com/564x/64/7a/44/647a44f50cca3b67b89fee7148d8448d.jpg$$20°$$$$50°$$$$y$$$$300 ft$$ \_\_\_\_\_\_\_\_\_\_\_1. If Frankie is 6 feet tall, how far off the ground is the UFO?

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| 1. Brendan sees a kite in the sky from his spot on the ground. The angle of elevation from Brendan to the kite is 65°. If he steps back 275 feet, the new angle of elevation is 3$5°.$
2. Solve for y.
3. If Brendan is 6.25 feet tall, how far off the ground is the kite?

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| 1. John sees an eagle in the sky from his spot on the ground. The angle of elevation from John to the eagle is 45°. In fear, he runs back 150 feet. His new angle of elevation is 10°.
2. Solve for y.
3. If John is 5.5 feet tall, how far off the ground is the eagle?

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