

Math 42 Additional Homework 3

Mon Dec 5, 2016

DUE Thu Dec 8, 2016 @ 10:35am

NAME YOU ASKED TO BE CALLED IN CLASS: _____

- [1] A car travels along an east-west road. A house sits off the side of the road.
Originally, the house is on a bearing of 216° from the car.
After the car has travelled 96 feet, the house is then on a bearing of 162° from the car.
Find the original and final distance between the car and the house.
- [2] A 24 foot tall flagpole is mounted vertically (to the Earth) along a sloped road.
When the angle of elevation of the sun is 72° , the flagpole's shadow is 9 feet long downhill.
Find the angle of inclination of the road.
- [3] A mass of 35 kg is suspended motionless in mid air by two forces with direction angles 30° and 135° respectively.
Find the magnitudes of the forces.
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- [4] A warehouse worker is pulling a pallet across the floor using a strap.
The strap is 4 meters long and the worker's hand is 1 meter above the ground.
Find the work done if the worker exerts a force of 42 newtons along the strap and pulls the pallet 12 meters.
- [5] A 24 foot flagpole is mounted vertically (to the Earth) along a sloped road which has an angle of inclination of 6° .
A cat sits on the road, 9 feet uphill from the base of the flagpole.
Find the angle of depression from the top of the flagpole to the cat.
- [6] You wish to reach a point 132 miles on a bearing of 192° from home.
Due to weather conditions, you instead travel 126 miles on a bearing of 168° .
How far, and on what bearing, must you now travel to reach your destination ?
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