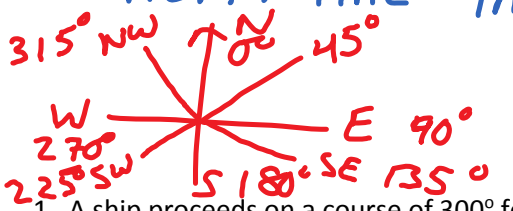
9.5 Part 2 Navigation

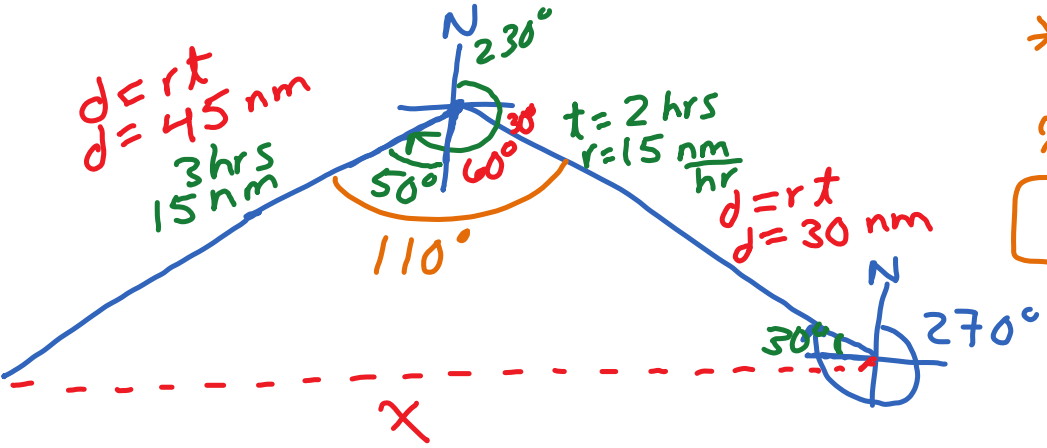
HW pg. 362 #1 - 14 odds due next class

Course of a Ship/Plane – same

Compass Bearing (navigation) – the angle measured from the north line in a clockwise rotation



1. A ship proceeds on a course of 300° for 2 hours at a speed of 15 knots (1 knot = 1 nautical mile per hour). Then it changes course to 230°, continuing at 15 knots for 3 more hours. At that time, how far is the ship from its starting point?



* SAS

$x^2 = 45^2 + 30^2 - 2(45)(30)\cos 110°$

$x \approx 62$ nm

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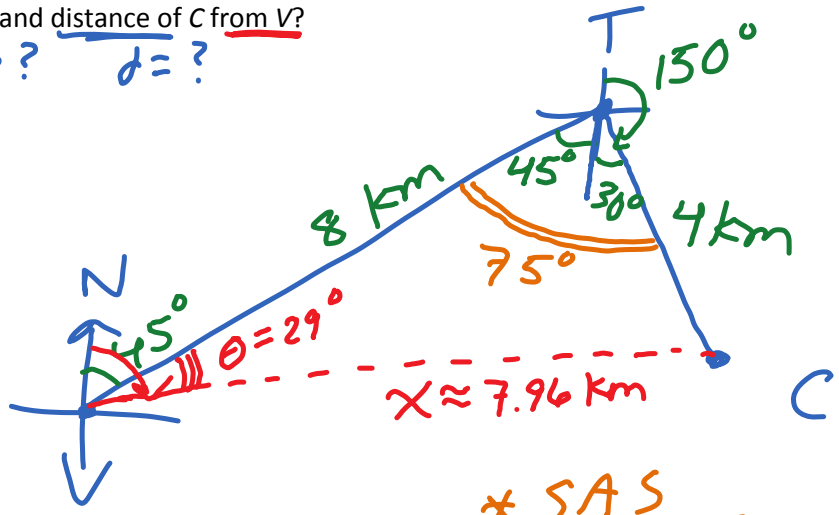
2. Town *T* is 8 km northeast of village *V*. City *C* is 4 km from *T* on a bearing of 150° from *T*. What is the bearing and distance of *C* from *V*?

angle ? d = ?



* SSS

$\cos\theta = \dfrac{8^2 + 7.96^2 - 4^2}{2(8)(7.96)}$

$\theta \approx 29.0°$

Bearing from V: $45° + 29° = \boxed{74°}$

* SAS

$x^2 = 8^2 + 4^2 - 2(8)(4)\cos 75°$

$\boxed{x \approx 7.96 \text{ km}}$