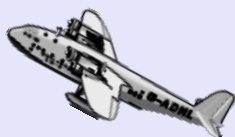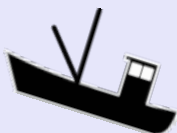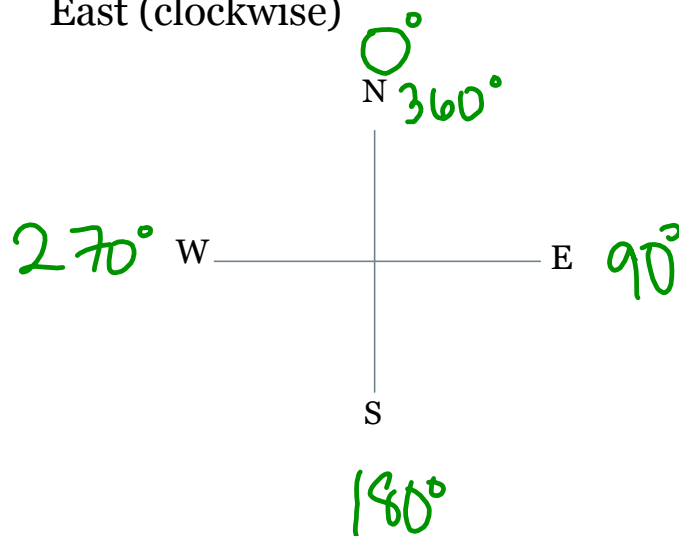*Day 2*

Unit 4

Learning Target 4

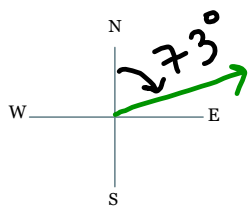I can solve application problems using right triangles.

Navigation

Planes and ships use angles called BEARINGS (course or heading) to give directions of where they are located.
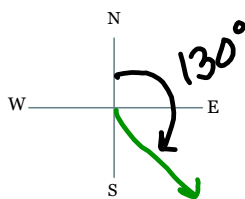
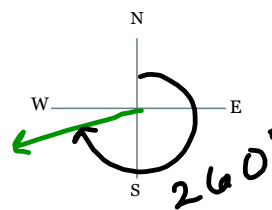**BEARING**: an angle that is measured from the North heading
East (clockwise)

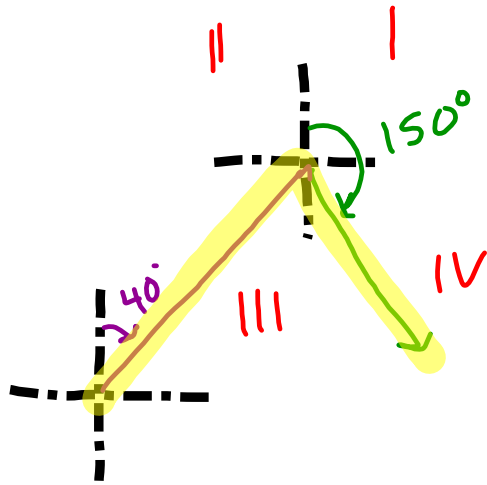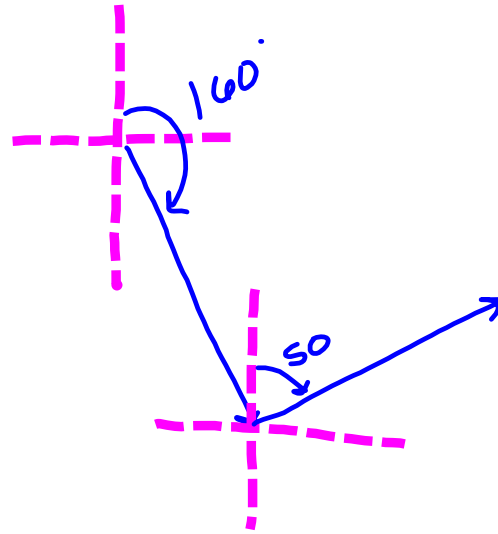$0°$

N $360°$

$270°$ W ———————+——————— E $90°$

S

$180°$

1.) $73°$

N
W — + — E
S
$273°$

2.) $130°$

N
W — + — E
S
$130°$

3.) $260°$

N
W — + — E
S
$260°$

5.) $40°$ *then* $150°$ 6.) $160°$ *then* $50°$

Steps for Solving Bearing Problems

1.) Read the WHOLE problem first. (Underline or circle any important information)
2.) Sketch a diagram.
3.) Find and label the RIGHT TRIANGLE.
4.) Set up an equation and solve.
5.) Make sure you answer the question.

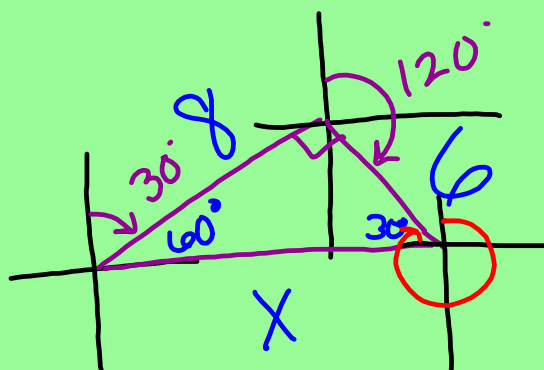## It is critical that your drawing is neat, accurate, and labeled!

6.)   A plane flies 1.3 hours at 110 mph on a bearing of 40°. It turns and flies 1.5 hours at the same speed on a bearing of 130°. How far is the plane from its starting point?

7.)   The USS Boynton leaves a pier on a bearing of 31 °and travels 45 km. The ship turns and travels 30 km on a bearing of 121 °. If the Captain wants to return to the pier using the shortest route, how far must the ship travel? What bearing does the ship have to travel to return to the pier?
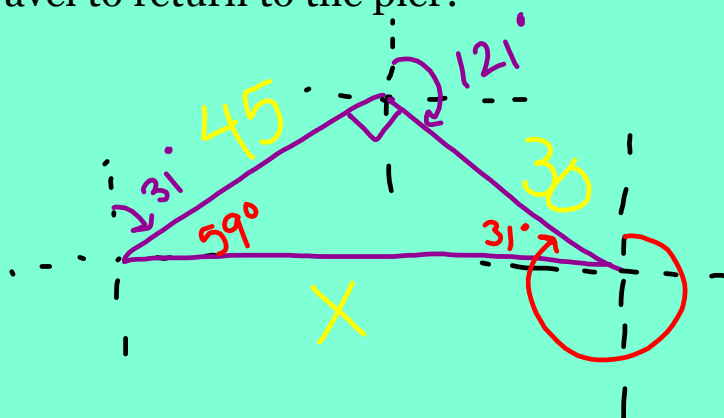
$X = 54.08$

$301°$

8.) A group of hikers walk 8 km from camp on a course of 30°, then they turn and walk 6 km on a course of 120°. How far are they from the campsite? What course do they need to follow in order to get back to camp?

$X = 10$

$300°$

120°

30°

8

60°

30°

6

X