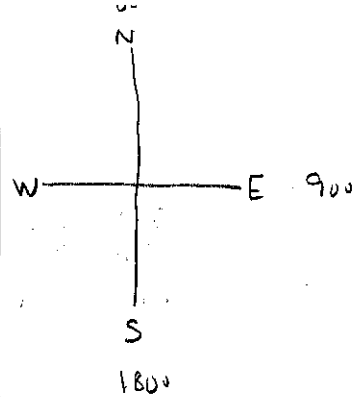


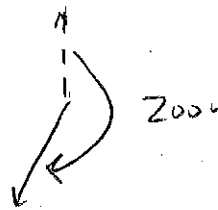
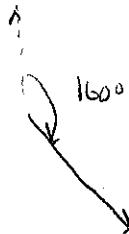
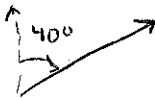
Notes: Trig Day 3
Bearing

270°

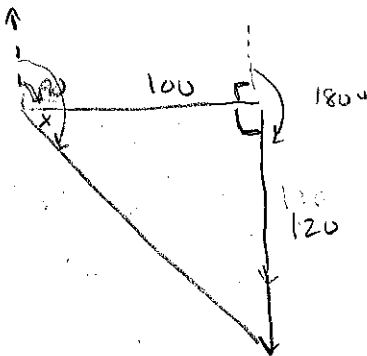


Bearing is the number of degrees **clockwise** that an object is heading from due North

- 1) Draw an object that's moving on a bearing of a) 40° b) 160° c) 200°



- 2) A plane travels 100 miles on a bearing of 90°, and then turns and travels 120 miles on a bearing 180°. Find the bearing from where the plane started to where it ended.



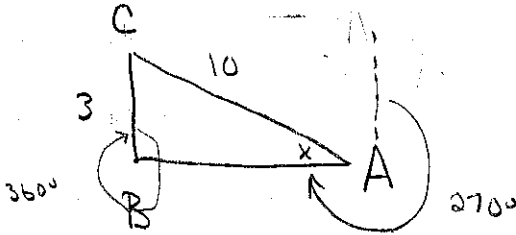
$$\text{Bearing: } 90 + x$$

$$\tan x = \frac{120}{100}$$

$$x = 50.194^\circ$$

$$\text{Bearing: } 50.194 + 90 = \boxed{140.194^\circ}$$

3) The bearing from A to B is 270° , and the bearing from B to C is 360° . The distance from A to C is 10 miles, and the distance from B to C is 3 miles. Find the bearing from A to C.



$$\text{Bearing: } 270 + x$$

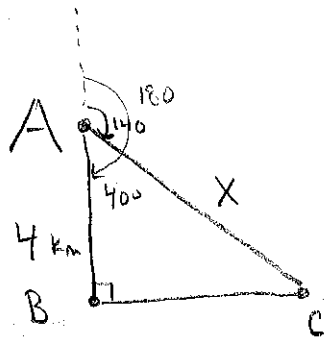
$$\sin x = \frac{3}{10}$$

$$x = 17.458^\circ$$

$$\text{Bearing: } 17.458 + 270 =$$

$$\boxed{287.458^\circ}$$

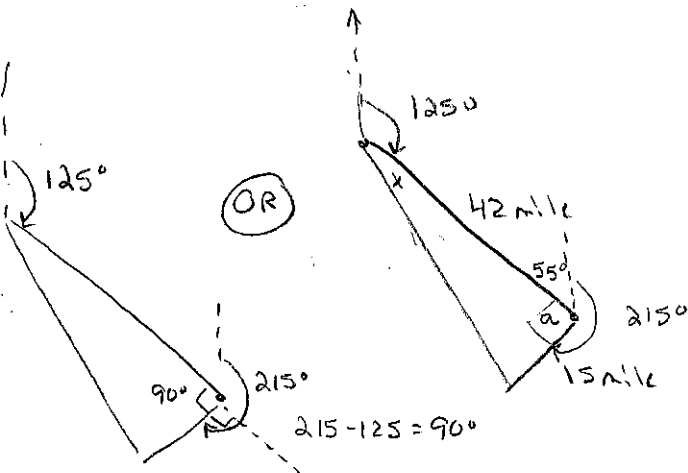
4) The bearing from A to B is 180° , the bearing from B to C is 90° , and the bearing from A to C is 140° . If $AB = 4$ km, then $AC = ?$



$$\cos 40^\circ = \frac{4}{x}$$

$$x = \frac{4}{\cos 40^\circ} = \boxed{5.222 \text{ km}}$$

5) A boat travels for 42 miles on a bearing of 125° , then turns and travels 15 miles on a bearing of 215° . What's the bearing from where the boat started to where it ended?



★ Co-interior angles supplementary

$$55 + 215 + a = 360$$

$$a = 90^\circ$$

$$\text{Bearing: } 125 + x = \boxed{144.654^\circ}$$

$$\tan x = \frac{15}{42}$$

$$x = 19.654^\circ$$