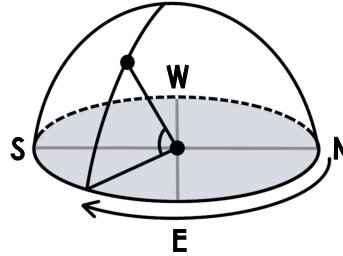


WHERE IS IT? DESCRIBING POSITIONS IN SPACE

Imagine you see something cool in the night sky and want to call up your friend to tell them to go see it. How would you describe to them where to look? Two questions must be answered here:

① WHAT DIRECTION IS IT IN?

Can be answered using azimuth (the compass directions). North is 0° and you go clockwise from there (making east 90°, south 180°, and west 270°).



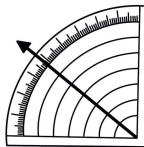
WHAT IS THE AZIMUTH OF THIS STAR?



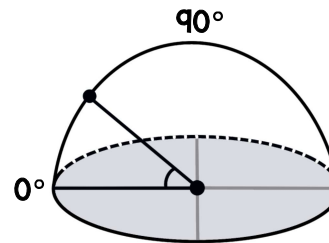
Pay attention to which "side" is labelled as which direction; they won't always be orientated the same way!

② HOW HIGH IN THE SKY IS IT?

Can be answered using altitude, which ranges from 0° at the horizon to 90° straight overhead (also called the zenith)



REMEMBER THE QUADRANT?



WHAT IS THE ALTITUDE OF THIS STAR?



HOWEVER! WE HAVE A LIMITATION HERE!!!

IMPORTANT: what if the star isn't along the plane of our "dome", like in our first (azimuth) example? We have a limitation here because we are trying to depict a 3D scenario on 2D paper. If you moved the star in that example up to the zenith, you can imagine how the angle would appear to be larger than 90° which we know cannot be true.

You cannot measure a "3D angle" in a "2D diagram", so in these scenarios, you will only be asked to ESTIMATE the angle. You will only be asked to MEASURE the angle (with a protractor) in scenarios where the star falls along our dome.



EXAMPLES: Azimuth can always be an estimate. Altitude will be an estimate as well UNLESS it's on the dome, then it should be a measurement with a protractor.

DIAGRAM	ALTITUDE	AZIMUTH	DIAGRAM	ALTITUDE	AZIMUTH
	30°	40°		29°	0°
	18°	90°		60°	40°
	50°	135°		35°	150°