Here is a quick and easy method to focus a camera lens on stars in the night sky. If your eyes are not as good as they once were, this method might help.

The key to focusing a camera on stars begins with a few simple rules. First, set your camera and lens to full Manual mode and manual focus. Point your lens at a very bright star. Then use Liveview mode and your camera's focus magnifier to zoom in for a closer view while focusing.

That is the basic concept, but focusing on stars can still be hit and miss as it is difficult to judge how sharp the focus is or isn't on a tiny LCD. If you have an add-on large monitor, then it is easier, but most AP folks probably don't. So how can you make getting a sharp focus easier? Well you can try this inexpensive, quick, easy method. All it requires is a special type of lens filter you can find on eBay or other places.

What do you need?

You need to get an 8 point "star effect" filter like the one shown below. This will show light spikes from light sources like bright stars. I've had my Sunpak 8 Point Cross Star Effect filter for years, but I'm sure you can get one like it on eBay or any number of other sources.
How do I use it?

1. Attach the 8 point "star effect" filter to the lens.
2. On the lens, set the aperture and focal length which you will be using.

**Note:** Changing aperture are focal length (for zoom lenses) will likely effect your focus. So if you change the aperture and/or focal length after focusing, you will need to refocus.

3. Point the lens at a very bright star.

Make sure that your camera settings allow the star to display brilliantly with a dark sky around it. This sharp contrast will help you focus.

4. In Liveview mode with the focus magnifier on the highest setting, adjust the focus until you see the sharpest (often thinnest) light spikes coming from the star.

Here is an image of my Sony a7 LCD showing the light spikes after I focused on Anteres. Notice how thin and sharp the spike appear. As you can see I used the focus magnifier at the highest setting of 11.7x zoom to better see what I was doing.

*Sony a7 Liveview Screen Showing Manual Focus Magnifier*
5. Take a test photo or two and verify the stars are in sharp focus.

Here is an image of my Sony a7 LCD in Playback mode as I view and zoom in on the test photo I just took. The stars are slightly elongated in this sample because I was using a shutter speed of 3.2 sec with a 135mm lens. For the next test photo I took I corrected the exposure to a 1 sec shutter speed to prevent star elongation.

![Sony a7 Playback Screen Showing Test Image Zoomed in for Verification of Focus](image)

The thing to look for is very crisp, thin, sharp light spikes as well as tiny points of light for dimmer stars. If the stars are elongated as they were here, the light spikes will look thicker, so adjust the exposure speed as I did. Here is a 100% crop from the second test photo I took with the shutter set to 1 sec.
In this image you can see that the light spikes are now crisp, thin, and sharp, dimmer stars are nice tiny points of light and Antares looks sharp. Antares is very bright, so don't expect a bright star to look as sharp as the dimmer stars because it has a lot of glare when viewed at 100% crop level.

6. Focus is accomplished, so carefully place a piece of tape across the focus ring on the lens to prevent accidentally changing the focus.

At this point I usually remove the 8 point "star effect" filter from the lens. But you can leave it attached to create the star spike effect on brighter stars.
Recap:

1. Attach the 8 point "star effect" filter to the lens.
2. Set the aperture and focal length at which you will be shooting.
3. Point the lens at a very bright star.
4. Use Liveview and focus magnifier to focus on the star.
5. Take a view test photos to make sure focus is sharp.
6. With focus accomplished, tape down focus ring on lens to prevent accidentally changing it.

That's it!