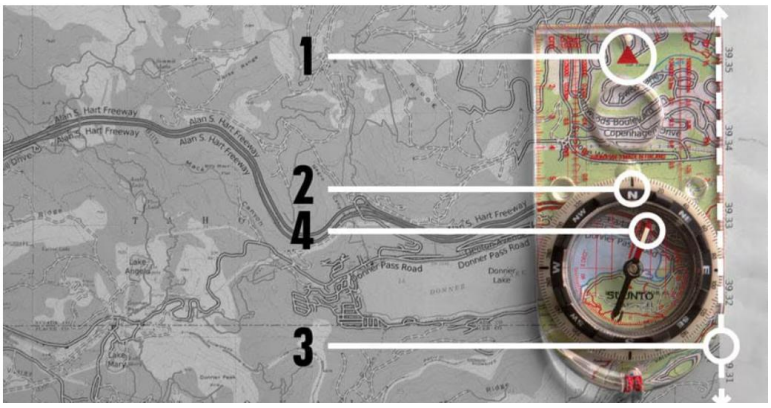
Frostbite Triangulation Challenge - Knowledge Resource

Orient Your Map

Map reading—correlating what you see on paper to what you see around you—is a foundational skill that you should practice early and often. Before you can do that, though, you have to have your map oriented correctly.



Once you've set your declination, map orientation is simple. ***For the Frostbite Triangulation Challenge, declination has already been accounted for. Use the Magnetic North (MN) Lines that are already printed on your map***:

1. Place your compass on the map with the direction of travel arrow pointing toward the top of the map. ***Again, use the Magnetic North (MN) Lines that are already printed on your map***
2. Rotate the bezel so that N (north) is lined up with the direction of travel arrow.
3. Slide the baseplate until one of its straight edges aligns with one of the ***Magnetic North (MN) Lines***. (The direction of travel arrow should still be pointing toward the top of the map.)
4. Then, while holding both map and compass steady, rotate your body until the end of the magnetic needle is within the outline of the orienting arrow.

Now you have the map oriented correctly and can identify nearby landmarks on it. Take time to become familiar with your map and surroundings before you head off. And keep reading your map along the way: Staying found is far easier than finding yourself after you're lost.

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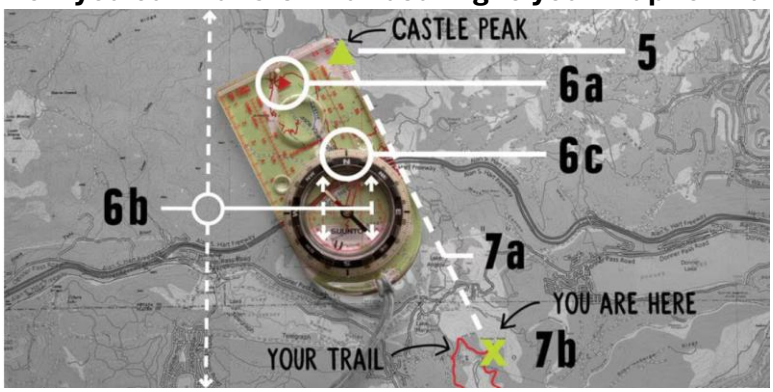
Taking a Bearing in the Field

Start by finding a landmark that you can also identify on your map.
Hold your compass flat with the direction of travel arrow pointing away from you and directly at the landmark.
Now rotate the bezel until the magnetized needle is inside the orienting arrow.
Look at the index line to read the bearing you've just captured.

Now you can transfer that bearing to your map to find your location:



Lay your compass on the map and align one corner of the straight edge with the landmark.
Making sure that the direction of travel arrow remains pointed in the general direction of the landmark (6a), rotate the entire baseplate until the orienting lines are running north/south (6b) and the north marker on the bezel is pointing to north on the map (6c).
Now you can draw a line on the map along the straight edge of your compass (7a). The point where that line from the landmark crosses your trail is your location (7b).

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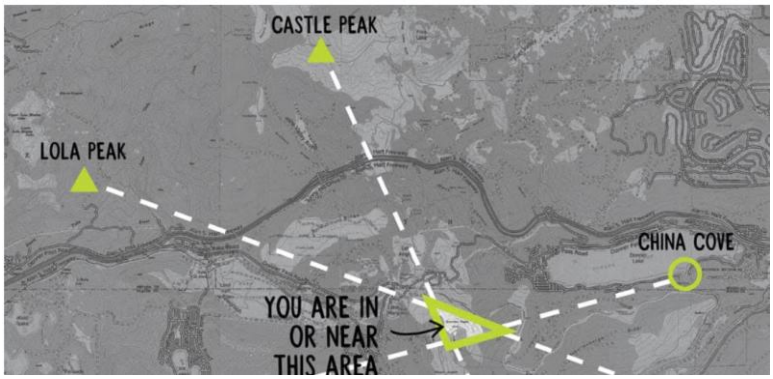
Triangulation
You can also use multiple bearings to find where you are on a map:



If you aren't on a linear feature like a trail, you can still find where you are on a map. Called "triangulation," this process simply requires you to follow these same steps with a second and a third landmark, preferably ones that are at least 60 degrees away from your first landmark (and each other).
If the lines you draw meet at a single point, that's your location. Most of the time, though, the three lines will form a small triangle—your location will be somewhere in or near that small area. If the lines form a very large triangle, recheck your work because you have at least one significant error.