Knowing which way is southeast from USA/Canada using a magnetic compass

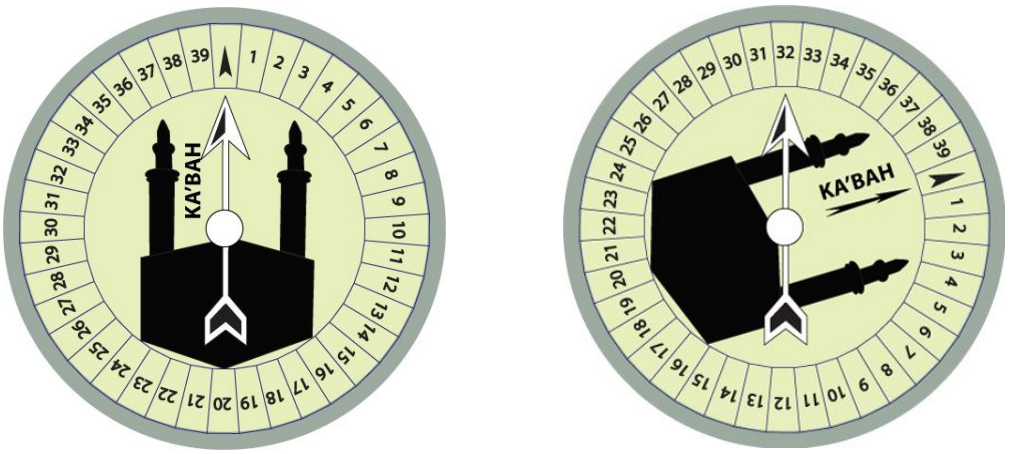
A convenient way of knowing which way to face towards Mecca from different cities around the world is by using a Magnetic Qiblah Compass. A Qiblah compass is essentially a standard magnetic compass, with a series of numbers around its border, and a Ka'bah arrow or 'minaret' printed on its dial. The numbers represent different cities (see the instruction booklet), while the Ka'bah arrow is the direction which the compass will point you to face towards.

Using this compass is very easy - here's how: First let the compass needle settle to its natural rest position, then rotate the compass to match the desired city number with the head of the needle. After you have done this, the direction which the Ka'bah arrow/minaret points to is the direction which you must face towards Mecca.

Is your Qiblah compass making you face northeast from USA/Canada? To date (2011), most Qiblah compasses available in North America will make you face north/northeast from USA and Canada. To check if your Qiblah compass is set up like this, match the number of a US or Canadian city with the compass needle as per the normal procedure. Most instruction booklets are standardized to have numbers between 31 and 1 for US and Canadian cities. Use these two numbers itself as they represent the two sides of the USA and Canada.

If the Ka'bah arrow/minaret is pointing somewhere between the same direction as the compass needle point (left diagram) to about 80° to its right (right diagram), then you are using a Qiblah compass which is calculated to make you face north/northeast from the USA and Canada.

Fig. 18: Qiblah compass pointing north to northeast from USA/Canada

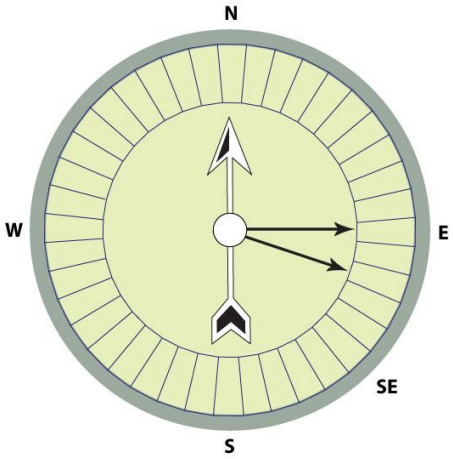


Can you use a northeast compass to know which way is southeast? With the establishment of God's purified religion well under way (9:33, 61:9, 110:2), God willing, future Qiblah compasses will soon start shipping with the instruction booklets standardized to point you Southeast from the USA and Canada. In the meanwhile, even if your existing Qiblah compass is set for northeast, you can continue to use it to tell you which way is southeast from wherever you are or you can just use a regular magnetic compass separately. See the next page to know how.

Finding the general direction of southeast with a magnetic compass:
First let the compass needle settle at its natural rest position as always. (Ignore all the numbers if you are using a Qiblah compass.) A compass needle will always point north which is actually the natural or 'magnetic' north of the earth.* Once the needle is settled, obviously, 90° perpendicular to its right will be East. Slightly southward beyond that will be southeast. 

If you are using a normal magnetic compass, it will not have numbers like a Qiblah compass but will have probably have markings like N, NE, E, SE, S… on its border. To find east/southeast, just follow the same procedure as above where 90° to the right of the needle's rest position will be east and slightly south of that will be southeast. To be more accurate, you can rotate the compass to align the 'N' with the needle and follow the east/southeast markings thereof (Fig 19).

Fig. 19: Using any magnetic compass to find the general direction of south of east



Important: When using magnetic compasses, always place them on a flat surface like the floor or wooden table, and keep them away from metallic objects like computers, steel furniture, keys and strong electromagnetic fields. Metallic objects greatly affect the natural position of a compass needle and your orientation may become incorrect without your realizing it. If you want to be sure, take a reading from a couple of different places in the room.

*Additional information - good to read once: The magnetic or natural north of the earth (where a compass always points), is different from the true or geographical north represented by maps, longitudes, poles, etc. The earth has a magnetic field around it and a compass always points to the field's north point. Due to the tilt of the earth's axis around which it rotates and the earth's shifting magnetic field, there is a variation between the magnetic north and geographical north of the earth. This variance is known as Magnetic Declination and varies from place to place. Though the variation across the huge expanse of the USA and Canada can go up to about 30° east or west of the geographical north at some locations, don't let it worry you too much. God knows your intention and you are applying the right principle to determine the Qiblah. However, if you want to be more exacting to account for magnetic declination, several internet sites have the information to help you adjust your compass reading for your location. For example, try:
www.thecompassstore.com/whatisdec.html; www.thecompassstore.com/comwitaddec.html;
www.ngdc.noaa.gov/geomagmodels/Declination.jsp
Auto southeast angle software calculator from USA/Canada: www.masjidtucson.org/ptime/