

Chapter 1 : Compass Point 12 | 3 Bedrooms, 2 Bathrooms | Hamilton Island Holiday Homes

Each point has an angular range of degrees where: middle azimuth is the horizontal angular direction (from north) of the given compass bearing; minimum is the lower angular limit of the compass point; and maximum is the upper angular limit of the compass point.

Points of the compass "Compass point" redirects here. For other uses, see Compass Point disambiguation. A point compass rose The points of the compass, specifically on the compass rose , mark divisions of a compass ; such divisions may be referred to as "winds" or "directions". A compass point allows reference to a specific heading or course or azimuth in a general or colloquial fashion, without having to compute or remember degrees. A compass is primarily divided into the four cardinal points – north , south , east , and west. These are often further subdivided by the addition of the four intercardinal or ordinal directions – northeast NE between north and east, southeast SE , southwest SW , and northwest NW - to indicate the eight principal winds. In meteorological usage, further intermediate points between cardinal and ordinal points, such as north-northeast NNE between north and northeast, are added to give the sixteen points of a wind compass. In ancient China 24 points of the compass were used, measuring fifteen degrees between points. Compass point names A point compass rose The names of the compass directions follow the point wind compass rose follow these rules: The ordinal or intercardinal directions are northeast NE , southeast SE , southwest SW and northwest NW , formed by bisecting the angle of the cardinal winds. The name is merely a combination of the cardinals it bisects. The principal winds form the basic eight-wind compass rose. Notice that the name is constructed simply by combining the names of the principal winds to either side, with the cardinal wind coming first, the ordinal wind second. The sixteen quarter winds are the direction points obtained by bisecting the angles between the points on a wind compass rose. So "northeast by east" means "one quarter from NE towards E", "southwest by south" means "one quarter from SW towards S". Similarly, the names of the two film festivals South by Southwest and North by Northeast are not wind compass points; a quarter wind whose name contains both a cardinal and an ordinal direction is named with the ordinal direction first. Traditional names The traditional compass rose of eight winds and its wind and wind derivatives was invented by seafarers in the Mediterranean Sea during the Middle Ages the ancient Greco-Roman 12 classical compass winds have little to do with them. This Italianate patois was used to designate the names of the principal winds on the compass rose found in mariner compasses and portolan charts of the 14th and 15th centuries. The "traditional" names of the eight principal winds are: Portolan charts also colour-coded the compass winds: In the English compass, all wind names are constructed on the basis of the cardinal four names N, E, S, W. While there are more names to memorize, the payoff is that the name construction rules for the wind compass are more straightforward. The half-winds are just a combination of the two principal winds it bisects, with the shortest name usually coming first e. There are no irregularities to trip over: The names are perfectly symmetric.

Chapter 2 : Exploring the point(s) of the Star | The Compass

Home > The 32 Points of the Compass Rose Find an engraved or personalized compass gift at The Compass Company. Compasses with custom engraving make perfect gifts for personal use, corporate awards, and recognition.

Magnetic compass A military compass that was used during World War I The magnetic compass is the most familiar compass type. When the compass is held level, the needle turns until, after a few seconds to allow oscillations to die out, it settles into its equilibrium orientation. In navigation, directions on maps are usually expressed with reference to geographical or true north , the direction toward the Geographical North Pole , the rotation axis of the Earth. Depending on where the compass is located on the surface of the Earth the angle between true north and magnetic north , called magnetic declination can vary widely with geographic location. The local magnetic declination is given on most maps, to allow the map to be oriented with a compass parallel to true north. The effect of this means a map with the latest declination information should be used.

Non-magnetic compasses There are other ways to find north than the use of magnetism, and from a navigational point of view a total of seven possible ways exist [10] where magnetism is one of the seven. Two sensors that utilize two of the remaining six principles are often also called compasses, i. **Gyrocompass** A gyrocompass is similar to a gyroscope. It is a non-magnetic compass that finds true north by using an electrically powered fast-spinning wheel and friction forces in order to exploit the rotation of the Earth. Gyrocompasses are widely used on ships. They have two main advantages over magnetic compasses: No compass is affected by nonferromagnetic metal, although a magnetic compass will be affected by any kind of wires with electric current passing through them. Large ships typically rely on a gyrocompass, using the magnetic compass only as a backup. Increasingly, electronic fluxgate compasses are used on smaller vessels. However, magnetic compasses are still widely in use as they can be small, use simple reliable technology, are comparatively cheap, are often easier to use than GPS , require no energy supply, and unlike GPS, are not affected by objects, e. **GPS receivers used as compasses** GPS receivers using two or more antennae mounted separately and blending the data with an inertial motion unit IMU can now achieve 0. The devices accurately determine the positions latitudes, longitudes and altitude of the antennae on the Earth, from which the cardinal directions can be calculated. Manufactured primarily for maritime and aviation applications, they can also detect pitch and roll of ships. Small, portable GPS receivers with only a single antenna can also determine directions if they are being moved, even if only at walking pace. By accurately determining its position on the Earth at times a few seconds apart, the device can calculate its speed and the true bearing relative to true north of its direction of motion. Frequently, it is preferable to measure the direction in which a vehicle is actually moving, rather than its heading, i. These directions may be different if there is a crosswind or tidal current. GPS compasses share the main advantages of gyrocompasses. Additionally, compared with gyrocompasses, they are much cheaper, they work better in polar regions, they are less prone to be affected by mechanical vibration, and they can be initialized far more quickly. However, they depend on the functioning of, and communication with, the GPS satellites, which might be disrupted by an electronic attack or by the effects of a severe solar storm. Gyrocompasses remain in use for military purposes especially in submarines, where magnetic and GPS compasses are useless , but have been largely superseded by GPS compasses, with magnetic backups, in civilian contexts.

History of the compass The first compasses in ancient Han dynasty China were made of lodestone , a naturally magnetized ore of iron. Dry compasses began to appear around in Medieval Europe and the Islamic world. Key points on the compass, including the north end of the needle are often marked with phosphorescent , photoluminescent , or self-luminous materials [16] to enable the compass to be read at night or in poor light. As the compass fill liquid is noncompressible under pressure, many ordinary liquid-filled compasses will operate accurately underwater to considerable depths. Many modern compasses incorporate a baseplate and protractor tool, and are referred to variously as " orienteering ", "baseplate", "map compass" or "protractor" designs. This type of compass uses a separate magnetized needle inside a rotating capsule, an orienting "box" or gate for aligning the needle with magnetic north, a transparent base containing map orienting lines, and a bezel outer dial marked in degrees or other units of angular

measurement. A magnetic card compass is usually equipped with an optical, lensatic, or prismatic sight, which allows the user to read the bearing or azimuth off the compass card while simultaneously aligning the compass with the objective see photo. Magnetic card compass designs normally require a separate protractor tool in order to take bearings directly from a map. Military lensatic compass does not use a liquid-filled capsule as a damping mechanism, but rather electromagnetic induction to control oscillation of its magnetized card. A "deep-well" design is used to allow the compass to be used globally with a card tilt of up to 8 degrees without impairing accuracy. The use of air-filled induction compasses has declined over the years, as they may become inoperative or inaccurate in freezing temperatures or extremely humid environments due to condensation or water ingress. Military compasses like the Cammenga 3H military lensatic compass, the Silva 4b Militaire, and the Suunto M-5N T contain the radioactive material tritium ^3H and a combination of phosphors. Military compasses equipped with self-luminous lighting contain millicuries of tritium. The purpose of the tritium and phosphors is to provide illumination for the compass, via radioluminescent tritium illumination, which does not require the compass to be "recharged" by sunlight or artificial light. Consequently, the illumination of the display will fade. Traditionally the card is divided into thirty-two points known as rhumbs, although modern compasses are marked in degrees rather than cardinal points. The glass-covered box or bowl contains a suspended gimbal within a binnacle. This preserves the horizontal position. **Thumb compass** [Main article: Thumb compass](#) **Thumb compass on left** A thumb compass is a type of compass commonly used in orienteering, a sport in which map reading and terrain association are paramount. Consequently, most thumb compasses have minimal or no degree markings at all, and are normally used only to orient the map to magnetic north. An oversized rectangular needle or north indicator aids visibility. Thumb compasses are also often transparent so that an orienteer can hold a map in the hand with the compass and see the map through the compass. The best models use rare-earth magnets to reduce needle settling time to 1 second or less. **Solid state compasses** [Main article: Magnetometer](#) 3-axis electronic magnetometer AKM by AKM Semiconductor Small compasses found in clocks, mobile phones, and other electronic devices are solid-state microelectromechanical systems MEMS compasses, usually built out of two or three magnetic field sensors that provide data for a microprocessor. Often, the device is a discrete component which outputs either a digital or analog signal proportional to its orientation. This signal is interpreted by a controller or microprocessor and either used internally, or sent to a display unit. **Specialty compasses** A standard Brunton Geo, used commonly by geologists Apart from navigational compasses, other specialty compasses have also been designed to accommodate specific uses. **Qibla compass**, which is used by Muslims to show the direction to Mecca for prayers. **Optical or prismatic hand-bearing compass**, most often used by surveyors, but also by cave explorers, foresters, and geologists. These compasses generally use a liquid-damped capsule [27] and magnetized floating compass dial with an integral optical sight, often fitted with built-in photoluminescent or battery-powered illumination. Most of these compasses are designed for heavy-duty use, with high-quality needles and jeweled bearings, and many are fitted for tripod mounting for additional accuracy. They were used for land surveying, particularly with plane tables. As the compass is moved closer to one of the magnetic poles, the magnetic declination, the difference between the direction to geographical north and magnetic north, becomes greater and greater. At some point close to the magnetic pole the compass will not indicate any particular direction but will begin to drift. Also, the needle starts to point up or down when getting closer to the poles, because of the so-called magnetic inclination. Cheap compasses with bad bearings may get stuck because of this and therefore indicate a wrong direction. Local environments may contain magnetic mineral deposits and artificial sources such as MRIs, large iron or steel bodies, electrical engines or strong permanent magnets. Any electrically conductive body produces its own magnetic field when it is carrying an electric current. Magnetic compasses are prone to errors in the neighborhood of such bodies. Some compasses include magnets which can be adjusted to compensate for external magnetic fields, making the compass more reliable and accurate. A compass is also subject to errors when the compass is accelerated or decelerated in an airplane or automobile. Compasses that include compensating magnets are especially prone to these errors, since accelerations tilt the needle, bringing it closer or further from the magnets. Another error of the mechanical compass is turning error. When one turns from a heading of east or west the compass will lag behind the turn or lead ahead of the turn.

Magnetometers, and substitutes such as gyrocompasses, are more stable in such situations. Construction of a magnetic compass

Magnetic needle A magnetic rod is required when constructing a compass. However, this method produces only a weak magnet so other methods are preferred. For example, a magnetised rod can be created by repeatedly rubbing an iron rod with a magnetic lodestone. This magnetised rod or magnetic needle is then placed on a low friction surface to allow it to freely pivot to align itself with the magnetic field. It is then labeled so the user can distinguish the north-pointing from the south-pointing end; in modern convention the north end is typically marked in some way.

Needle-and-bowl device If a needle is rubbed on a lodestone or other magnet, the needle becomes magnetized. When it is inserted in a cork or piece of wood, and placed in a bowl of water it becomes a compass.

Points of the compass Main article: Points of the compass

Wrist compass of the Soviet Army with counterclockwise double graduation: Later, these were divided, in China into 24, and in Europe into 32 equally spaced points around the compass card. For a table of the thirty-two points, see compass points. In the modern era, the degree system took hold. This system is still in use today for civilian navigators. The degree system spaces equidistant points located clockwise around the compass dial. In the 19th century some European nations adopted the " grad " also called grade or gon system instead, where a right angle is grads to give a circle of grads. Dividing grads into tenths to give a circle of decigrades has also been used in armies. Most military forces have adopted the French " millieme " system. This is an approximation of a milli-radian per circle , in which the compass dial is spaced into units or "mils" for additional precision when measuring angles, laying artillery, etc. The value to the military is that one angular mil subtends approximately one metre at a distance of one kilometer. Imperial Russia used a system derived by dividing the circumference of a circle into chords of the same length as the radius. Each of these was divided into spaces, giving a circle of The Soviet Union divided these into tenths to give a circle of units, usually translated as "mils". This system was adopted by the former Warsaw Pact countries e. Soviet Union , East Germany , often counterclockwise see picture of wrist compass. This is still in use in Russia.

Chapter 3 : Compass “ Official Minecraft Wiki

All Points of the Compass Central Plateau, North Island. View from a friend's farm. Tuesday, 23 October July, another wonderful 12 days of Christmas Blog Hop.

Year 8 Interactive Maths - Second Edition Circles and using a Compass In this section, we will consider the definition of a circle, lines in a circle and parts of a circle. Circle A circle is a set of points in a plane that are the same distance from a fixed point called the centre. These set of points form the perimeter of the circle. The radius is the distance from the centre of the circle to any point on its perimeter. The circumference of a circle is the perimeter of the circle. These parts of a circle are indicated in the accompanying diagram. The plural of radius is radii. Lines in a Circle The name of a line in a circle depends on its position in the circle. A secant is a line that passes through any two points on a circle. A chord is a line that joins two points on the circumference of a circle. The diameter is a chord that passes through the centre of a circle. A tangent is a line that touches the circle at only one point. Parts of a Circle An arc is a part of the circumference. A sector is the part of a circle between two radii. A segment is the part of a circle that is between a chord and the circumference. A semicircle is a half of a circle. Compass A compass is an instrument used to draw circles or the parts of circles called arcs. It consists of two movable arms hinged together where one arm has a pointed end and the other arm holds a pencil. Note that a compass is also called a pair of compasses. To draw a circle or arc with a compass: Place the point of the compass at the centre of the circle. Use a compass to draw a circle of radius 5 cm. Use a compass to draw a circle of diameter 12 cm. Use a compass to draw a circle of radius 4. Draw the diameter of the circle; and use a ruler to measure the length of the diameter. Write an equation to represent the relation between the radius, r , and the diameter, d . Use a compass to draw a circle of radius 5. Draw a diameter and label it PQ. Draw a triangle PQR where R is on the semicircle. Use a protractor to measure the size of angle PRQ. Use a compass to draw a circle of radius 6. Use a compass to draw a circle of radius 7. Use the results of questions 4, 5 and 6 to complete the following statements: The size of the angle on the diameter of a circle with a vertex on the circle is \hat{C} b. If a triangle is drawn in a semicircle using the diameter as an edge, the angle touching the curved part of the triangle is \hat{C} Key Terms.

Chapter 4 : Circles and using a Compass

points of the compass Before the Magnetic Compass was discovered, early map makers would draw a small 16 pointed circle on the map, and place an "N" to point to North. These were the 16 Cardinal Points from which the winds were thought to blow.

Reading a Compass General Directions A compass can be used in many ways, from telling which way is North to finding hidden treasure or following an unmarked path over wilderness terrain. There are four cardinal points on a compass - North, South, East, and West. When reading a compass, and telling other people directions, you need to wipe "right" and "left" out of your vocabulary. Right and Left are relative directions and differ depending on your location and direction, but the cardinal points are constant. The direction halfway between North and East is an intercardinal point and is called NorthEast. Finally, there are secondary intercardinal points halfway between each cardinal point and intercardinal point. With these directions, you can give someone a fairly good idea of what direction they need to go. We could add additional points, continueing to break each section in half over and over, but telling someone to go East-EastEastNorthEast-EastNorthEast would not be fun. Since there IS a need for more precise directions, the circle of a compass face is split into marks called degrees. For rough directions, go ahead and use North or NorthWest. Two Types of Compasses We will be discussing the mountaineering compass, also called the orienteering compass. This is the type that has a needle that always points north and you need to move a dial to find directions. Actually, there is a magnetic piece like a needle, but it has a paper disk card glued to it or has a plastic ball around it that is free to rotate. As the vehicle turns, the card or ball remains fixed so the part you see changes. These are fine for general directions, but not helpful for what we want to do. Basic Compass Reading No matter the compass, one end of the needle always points North. On our mountaineering compasses, it is almost always the RED end, but its a good idea to test your compass before starting to use it. If you are north of the equator, stand facing the sun around lunchtime with your compass resting in your hand in front of you. Whichever end of the needle points towards the sun is South and the end that points at you is North. Become familiar with Parts of the Compass before learning to read your compass. To read your compass, Hold your compass steadily in your hand so the baseplate is level and the direction-of-travel arrow is pointing straight away from you. Hold it about halfway between your face and waist in a comfortable arm position with your elbow bent and compass held close to your stomache. Look down at the compass and see where the needle points. This compass is pointing due North also 0 degrees Turn your body while keeping the compass in front of you. Notice that as the compass rotates, the needle stays pointing the same direction. Keep turning until the needle points to East on the compass like the picture below, keeping the direction-of-travel arrow and North mark facing straight in front of you. The needle on this compass is pointing East 90 degrees Important: This is a very common mistake! The compass needle is pointing towards East so I must be pointing East, right? To find my direction, I must turn the compass dial until the North mark and the "Orienting Arrow" are lined up with the North end of the needle. Then I can read the heading that is at the Index Pointer spot the butt of the direction-of-travel arrow. Since the Orienting Arrow is usually two parallel lines on the floor of the compass housing, a good thing to memorize is: This is often all you need from your compass. These represent the degrees in a circle that surrounds you no matter where you are. When you need to find your way from one particular place to another, you need to use these numbers to find out the bearing to that remote place. The direction you are going is called your heading. Heading and Bearing are pretty much the same thing. The image above is a heading of about degrees. Using your compass, take a few bearings. Move your body until the direction-of-travel arrow points at the following items and then turn the dial until "RED is in the Shed". Then, read the bearing at the Index Pointer:

Chapter 5 : Points of the compass

A compass is an instrument used for navigation and orientation that shows direction relative to the geographic cardinal directions (or points). Usually, a diagram called a compass rose shows the directions north, south, east, and west on the compass face as abbreviated initials.

We lighted it with white lights. One of the highlights of our Christmas celebrations is remembering the star that led the Wise Men: We all know there was a star at Bethlehem, thanks to the evangelist Matthew. Replicas of the star adorn Nativity scenes and Christmas cards, and are highlighted in carols and top many Christmas trees. All we know is that it was special and that it moved. Star of the Magi Some astronomers say the Star of Bethlehem could have actually been a comet that appeared in 5 B. Others speculate it was a planetary conjunction of Jupiter and Saturn, which happened three times in 7 B. Some say the star was actually a nova the explosion of a star , also placed in Chinese records as occurring in March to April of 5 B. Others suggest astrology was involved. The Magi were known as astrologers from the East. Astrologers from that era were highly educated in mathematics and current events. They believed that the stars revealed truths about human life and history, and they studied movements of heavenly objects to gain insight into how their world worked. This may have been the appearance of a planet in the constellation Leo the constellation of royalty , which could have meant some important event was happening to a present world leader or royal family. We do know that both Jupiter and Venus appeared in Leo several times in 2 and 3 B. Or a comet might have caught their attention, like the recorded one in 5 B. For example, ancient Romans believed that a comet in 44 B. Whatever physical reality can be attached to the Star of Bethlehem and to the Magi who followed it, we can now find plenty of Christian symbolism attached to that star. Much of this comes from how many rays are depicted on the star. A natal star has its tail pointing toward the manger or the stable. Another popular representation of the Christmas star is the five-pointed star, mathematically known as a pentagram. Remember, for this type of star to be a Christian symbol, one point of the five points should be aimed toward heaven. It symbolizes the five wounds of Christ. Some sources also call it the Creator Star, because God created the world in six days. And an eight-pointed star, like the one my brother and I made, serves to highlight the eight beatitudes or Mary, whose birthday is marked on Sept. Pope Francis has an eight-pointed star on his coat of arms to honor Mary. Nine points on a Christmas star remind us of the fruits of the Holy Spirit, listed in Gal 5: A pointed star brings to mind the 12 Apostles and the 12 tribes of Israel. Also, the Book of Revelation has a passage referring to a woman crowned with 12 stars. Many statues of Mary show her crowned with 12 stars. Another star commonly seen from Advent to Epiphany is the Moravian star. While not a Catholic symbol, this is a popular Advent decoration that originated in Germany in the middle of the 19th century. This white star most often has 26 points and is also called the Herrnhut Star.

Chapter 6 : Addiction | Addiction Recovery | Addiction Treatment | Codependency | Shamanic Healing

A pointed star brings to mind the 12 Apostles and the 12 tribes of Israel. Also, the Book of Revelation has a passage referring to a woman crowned with 12 stars. Many statues of Mary show her crowned with 12 stars.

Chapter 7 : Card Rewards: BBVA Compass ClearPoints Credit Card | BBVA Compass

Lightly draw the arrows for the main cardinal points. Start at the 0° point (N) on the outer circle, and draw to the intersection of the 45° mark and the innermost circle. Do the same from the 0° mark to the intersection of the 90° mark and the innermost circle.]Repeat this process at the

Chapter 8 : 3 Easy Ways to Find the Center of a Circle - wikiHow

I am confused about which preposition to use with the points of the compass. In my textbook they use both w and na.

Examples: Last edited: Oct 12,

Chapter 9 : How to Draw a Compass Rose: 12 Steps (with Pictures) - wikiHow

16 Point Compass Rose. Nothing to do with "The Cruel Sea". The four main points of the compass are the Cardinal Points - (N)orth - (E)ast - (S)outh - (W)est Between the cardinal points are the Half Cardinal Points of the compass, NE, SE, SW, NW.