

Man-Made Line Features

Black 1

On your first few orienteering excursions, you will use a lot of man-made linear features, which are drawn in Black.

Man-made features are often easier to find than natural features. Linear features are things that run in a line from one point to another and they are easy to follow on the ground.

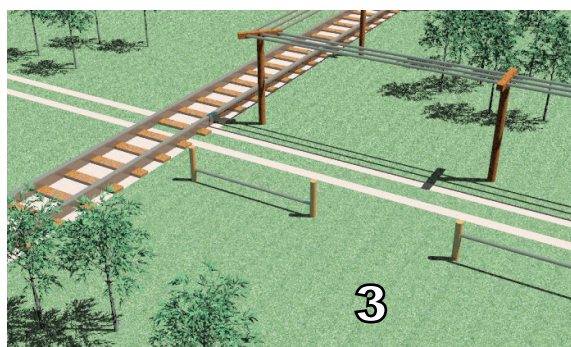
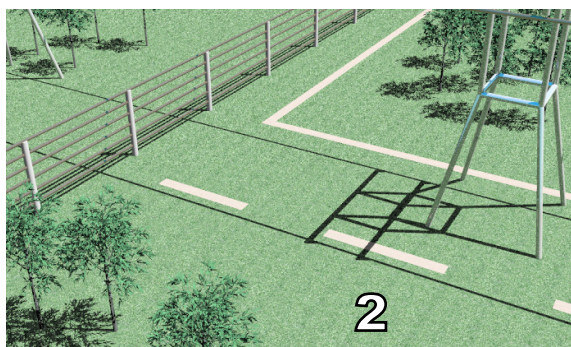
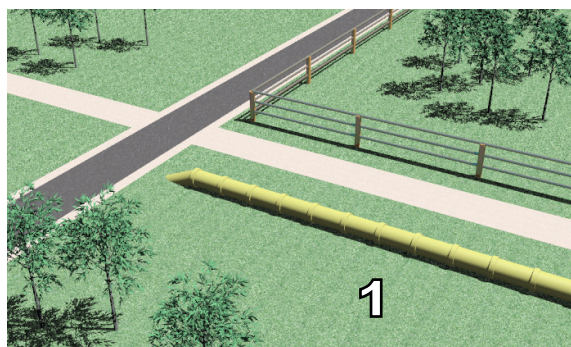
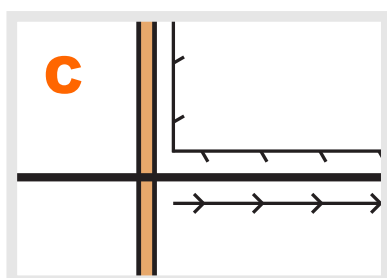
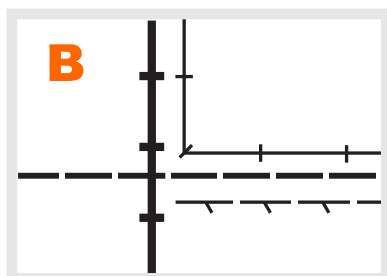
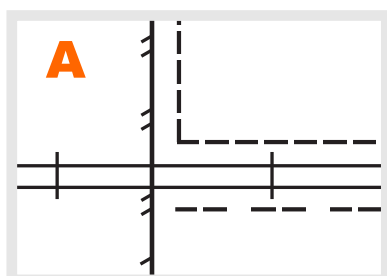
So what are these features? **Roads, tracks, paths, fences, pipelines, train tracks and powerlines.**

Sometimes, when two or more linear features are very close together, only the most obvious will be mapped.

	Sealed Road
	Major Track
	Minor Track
	Path
	Indistinct Path
	Fence
	High Fence
	Ruined Fence
	Pipeline
	Train Tracks
	Minor Powerlines
	Major Powerlines

Task

Match the maps on the left with the views on the right




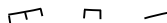









Rocks

Black 2

Rock features can be found on almost all orienteering maps. Every obvious rock feature - from patches of stony ground, through human-sized boulders, to 20 m cliffs - is shown.

When rocks of very different sizes are close together, only the most obvious rocks are mapped. For instance, an isolated 1 m high boulder in the middle of an open field would be shown on the map whereas the same boulder in the middle of a cluster of 4 m boulders would probably be left off the map.

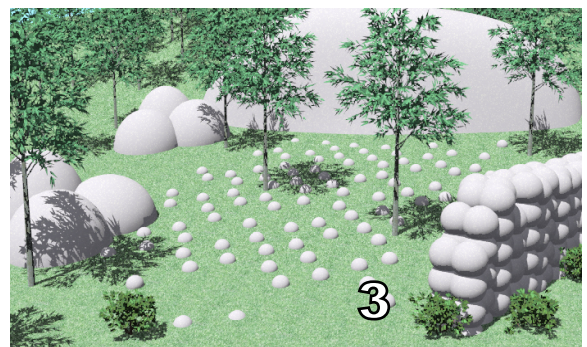
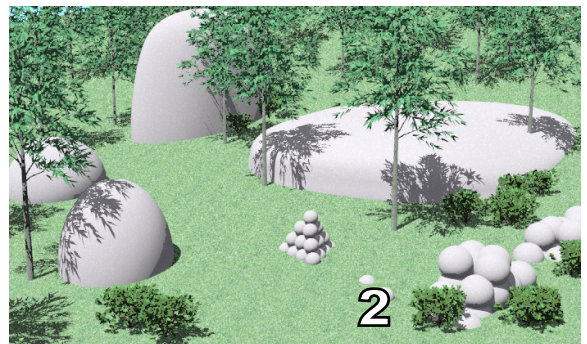
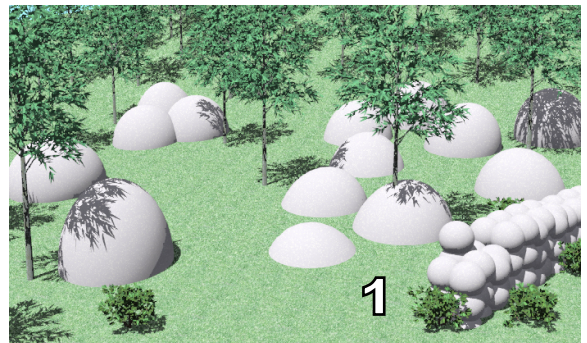
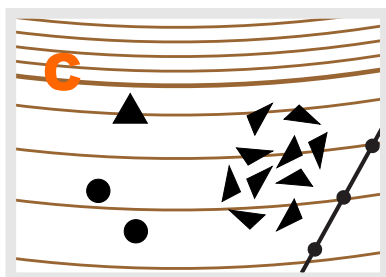
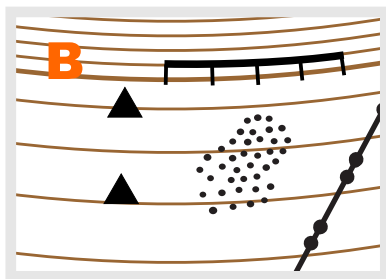
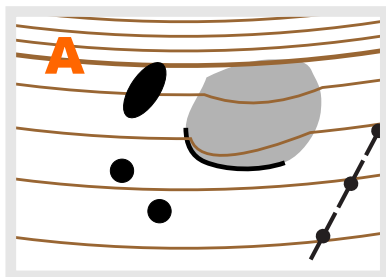
Rock features are open to a certain degree of interpretation; different mappers may show the same features in different ways. However, the mapper will always try to emphasise the most obvious aspects of any group of rocks.

	Boulder
	Passable Rock Face
	Impassable Cliff
	Rock Pillar
	Boulder Cluster
	Boulder Field
	Bare Rock
	Stony Ground
	Stone Wall
	High Stone Wall
	Ruined Stone Wall

Some rock symbols have large and small varieties, used to show the relative sizes of adjacent features on the ground.

Task

Match the maps on the left with the views on the right



Some features enlarged for clarity

More Man-Made Features

Black 3

Although earthworks, some water features, vegetation and even rock features can be man-made, a certain subset of features are typically described as “man-made”, and shown in black.

Gates, tunnels and bridges associated with fences, stone walls, pipes and roads are mapped. Buildings, ruined buildings, towers, cairns and graves also have dedicated map symbols.

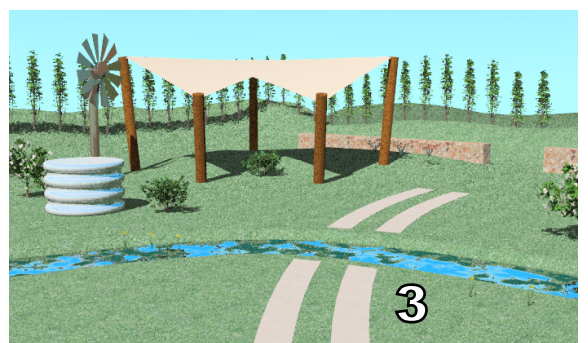
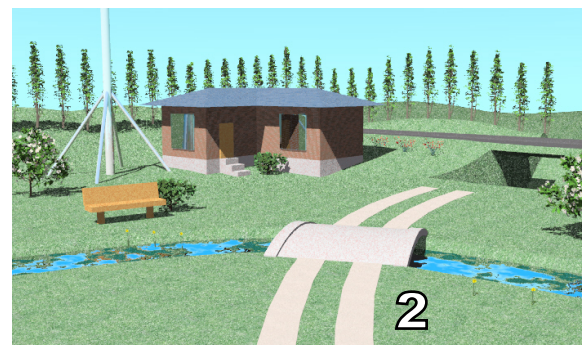
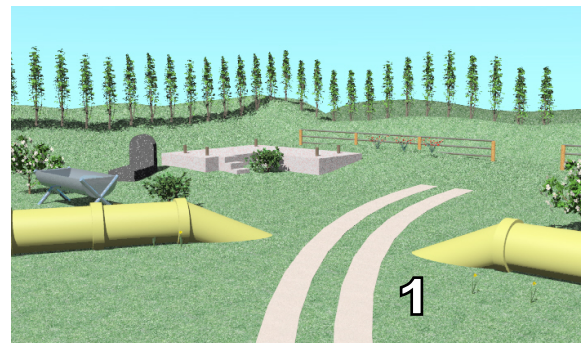
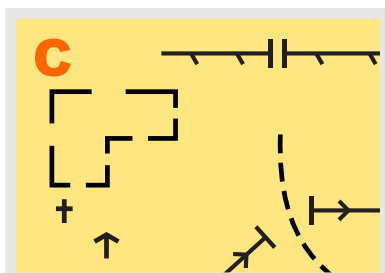
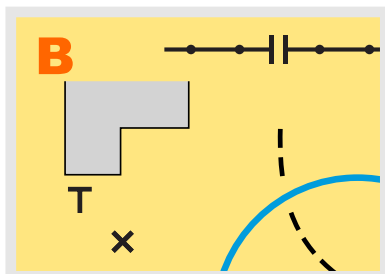
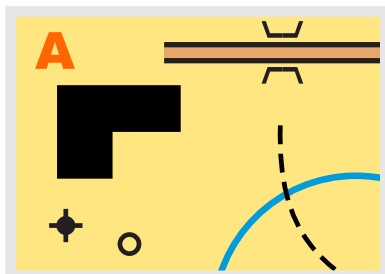
Two further non-specific man-made symbols are often used: an X and circle. These are used to denote special man-made features of limited size, such as park benches, play equipment and car-wrecks.

Make careful note of crossing points when a line feature is difficult to cross to save yourself long detours!

	Building
	Ruin
	Canopy
	Tower (Large, Small)
	Grave, Feedrack
	Special Features
	Crossing Point
	Crossing Point
	Crossing Point
	Tunnel (Pedestrian)
	Crossing (Bridge, None)

Task

Match the maps on the left with the views on the right



Water













Water features are shown in blue, and may sometimes be dry! The channels and hollows shaped by water are nonetheless obvious features.

Water features are lakes, rivers, channels (watercourses), ponds, marshes and waterholes. Rivers, streams and watercourses, as linear features, are useful for navigation.

A water feature is drawn with a black border if it is not possible or safe to cross when orienteering. Conversely, if a black border is broken, it indicates a safe crossing point.

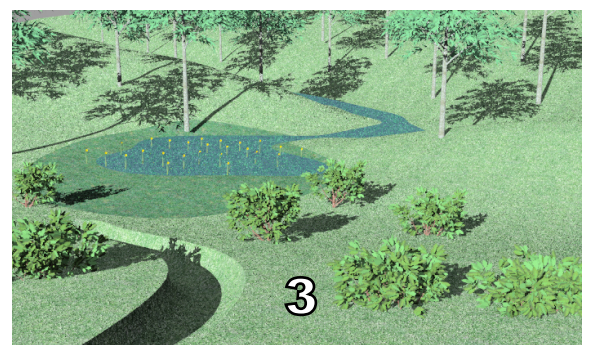
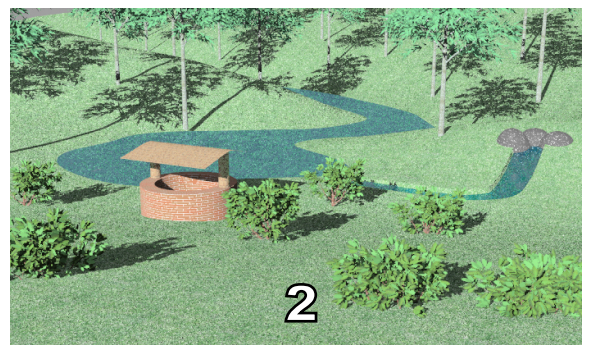
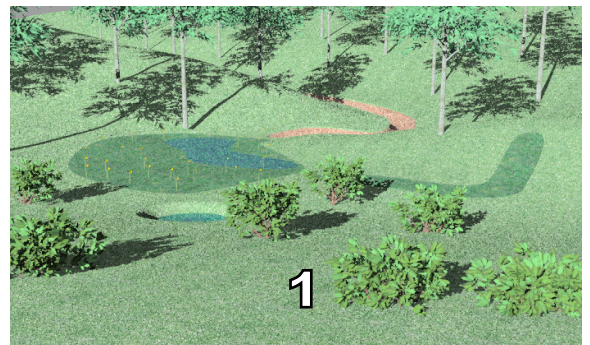
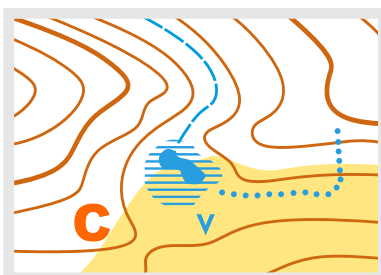
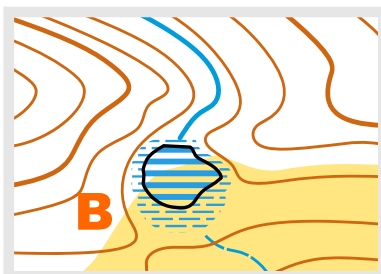
Note that watercourses and ditches look similar on the ground and that marsh symbols can be combined with vegetation colours.

Blue

	Lake
	Pond
	Uncrossable River
	Crossable River
	Watercourse
	Narrow Marsh
	Uncrossable Marsh
	Marsh
	Indistinct Marsh
	Waterhole
	Well
	Spring, Source

Task

Match the maps on the left with the views on the right



Vegetation 1

Orienteering maps show different types of vegetation (trees and bushes) with colour.

Yellow is used to indicate clear areas and green is used to show dense vegetation, with darker shades for denser vegetation.

White on the map is forest cover with ample space between trees. You can see a reasonably good distance and run as fast as you want.

As vegetation becomes denser, running speed decreases. It also becomes more difficult to see other features you might use for navigation.

Note well that yellow is used for clear land and shades of green for thicker and slower forest. White areas on the map have tree cover.

Yellow, White and Green

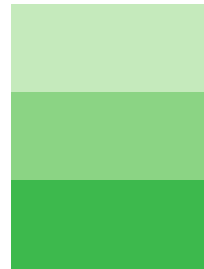
Faster Running,
Better Visibility



Open

Rough
Open

Nominal



Runnable
Forest

Slow Run

Walk

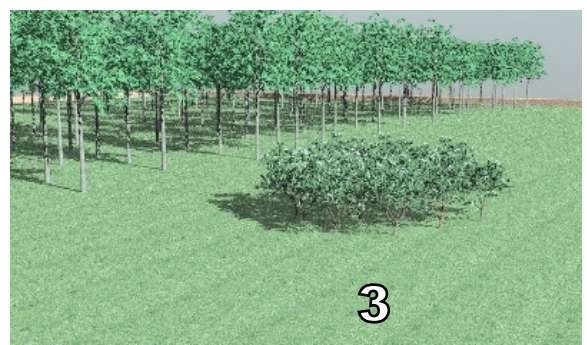
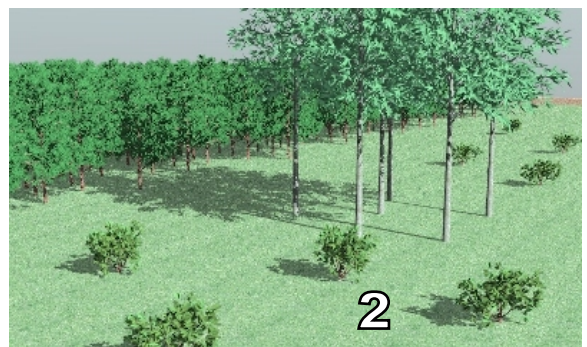
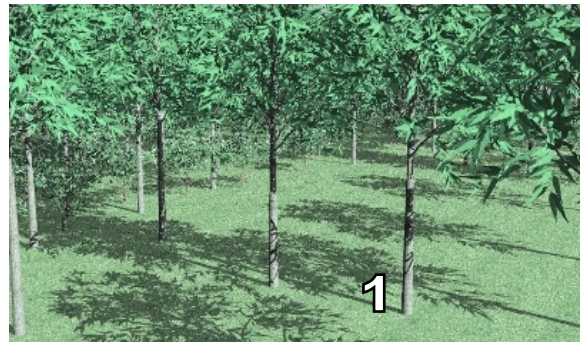
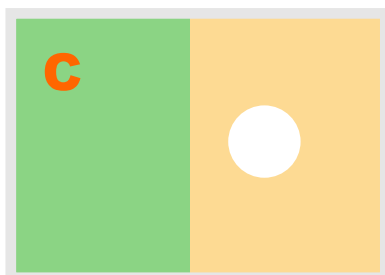
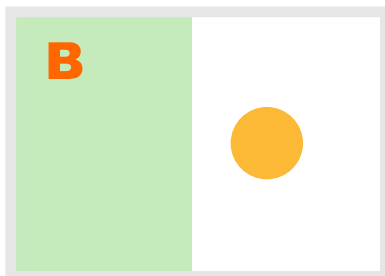
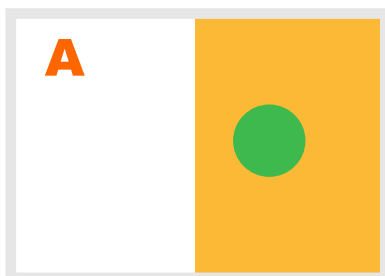
Fight
(Impenetrable)

Slower Running,
Worse Visibility

Vegetation boundaries can be indistinct. Look carefully at the examples below.

Task

Match the maps on the left with the views on the right



ORIENTEERING MAPS

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Vegetation 2











Yellow, White and Green Patterns

Variations to vegetation shading on the map convey more detailed information about the vegetation that can be found on the ground.

Solid yellow (open) areas are broken into white and yellow polka-dots to show the presence of scattered trees.

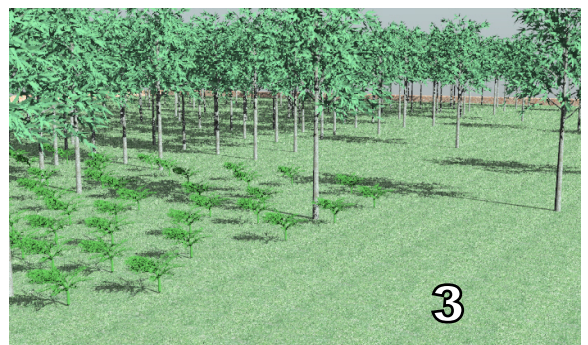
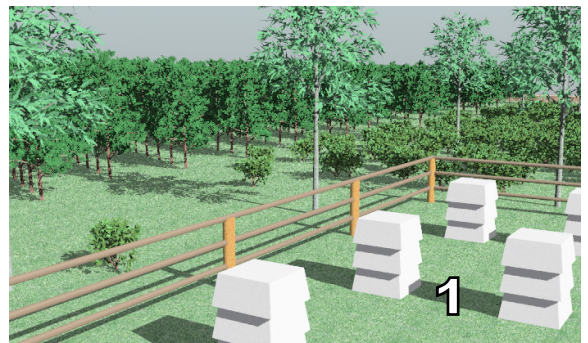
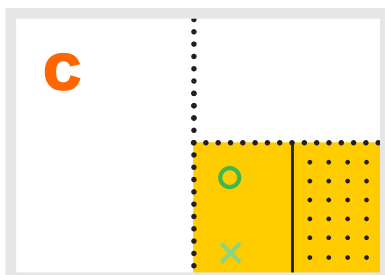
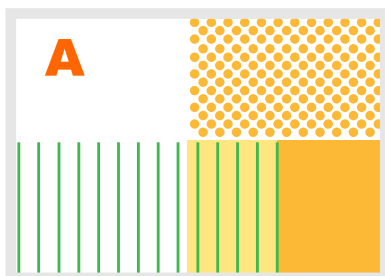
Solid green (thick) areas are replaced by fine green stripes to show waist-high vegetation that impedes running speed, but not visibility. Coarse white stripes through solid green areas show greater "runnability" in one direction, such as gaps between rows of a plantation.

Further, a dotted black line is used to show particularly distinct boundaries between areas of different types and/or thicknesses of vegetation.

	Cultivated Land, Orchard, Vineyard
	Open, Scattered Trees
	Rough Open, Scattered Trees
	Slow Run, Good Visibility
	Walk, Good Visibility
	Dense Forest, Runnable One Direction
	Permanently Out Of Bounds (2 alternatives)
	Distinct Boundary
	Cultivation Boundary
	Special Feature (Tree)

Task

Match the maps on the left with the views on the right



Contours 1

Contours show the shape of the land. It is important to understand contours.

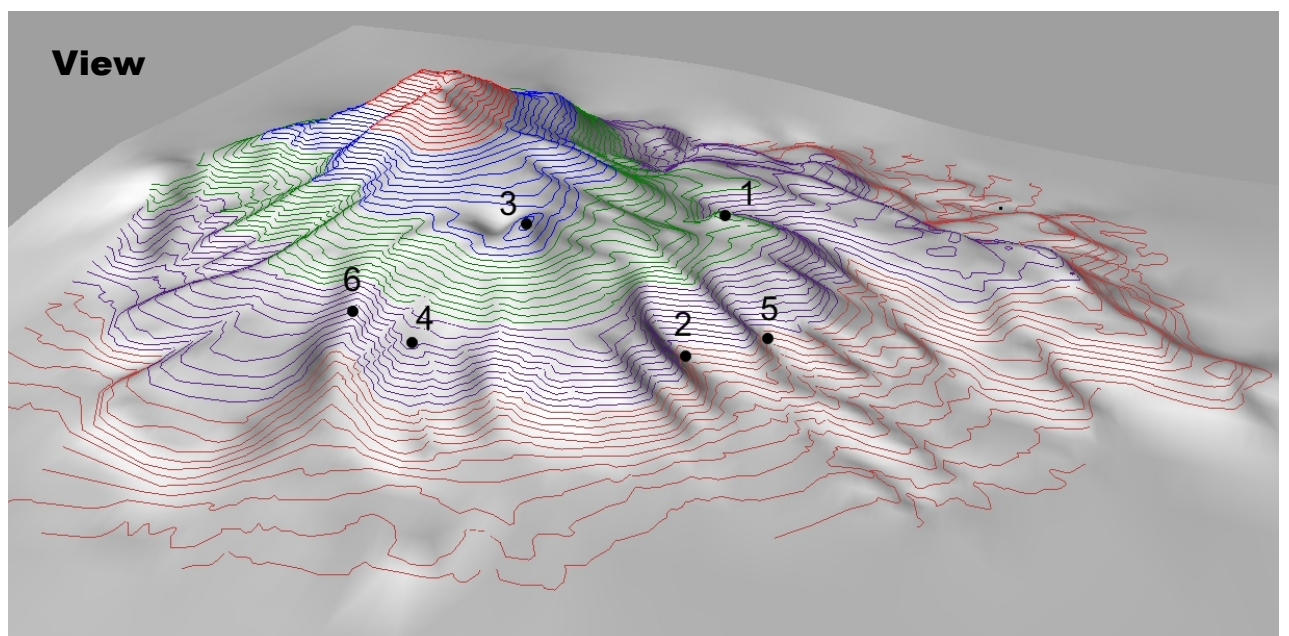
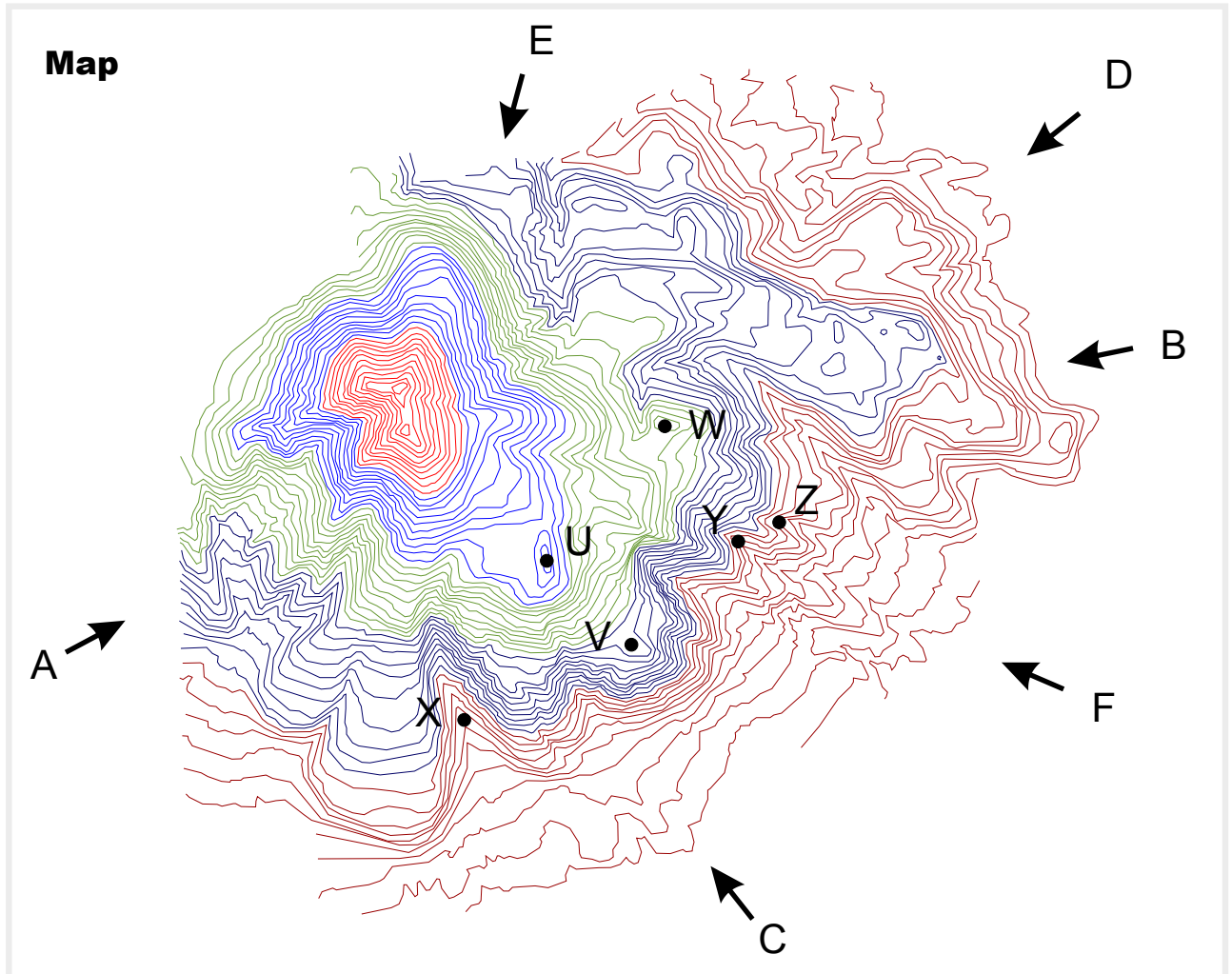
Contour lines join points of equal height. Therefore, the contour line just below a hilltop is a loop. Follow contours down from hilltops to understand the shape of the land.

Task I

There are 6 arrows (labelled A-F) on the map. Which arrow best describes the direction in which you are looking in the view?

Task II

There are 6 points (labelled U-Z) on the map. There are also 6 points (labelled 1-6) on the view. Please describe which points on the map match points in the view. Some don't match!



Contours 2

Names

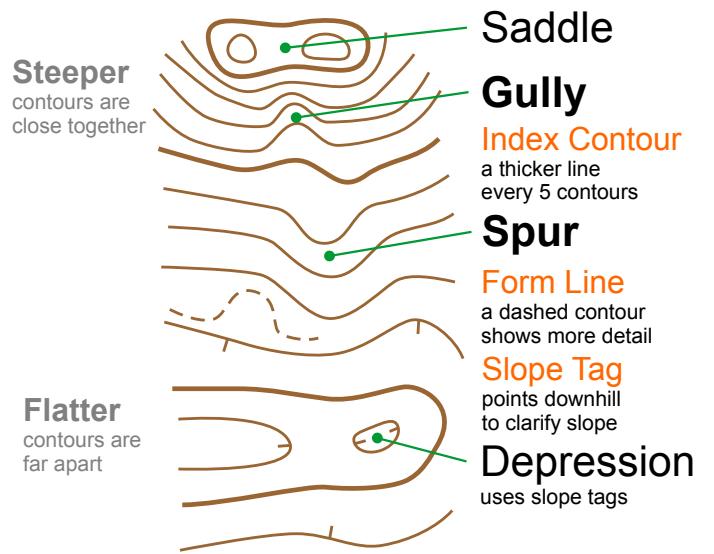
Naming contour features is useful because it helps you to identify them when you are orienteering, and it allows you to give and understand verbal descriptions of features.

Gully: The ground in a gully is slightly **lower** than its surrounds. On the map, gullies form "V" shapes pointing **towards** the tops of hills.

Spur: The ground on a spur is slightly **higher** than its surrounds. On the map, spurs form "V" shapes pointing **away** from the tops of hills.

Saddle: A flat area between two hilltops. Two spurs and two gullies meet in a saddle.

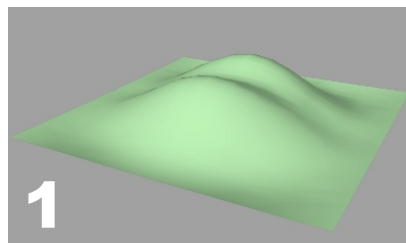
Depression: The opposite of a hilltop. A lower area of ground.



Maps specify a **Contour Interval**. This is the vertical distance between adjacent contours, and is typically 5 m. For example, every time you cross a contour on the map you gain or lose 5 m height.

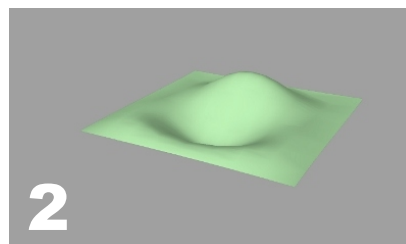
Task Match the names with the views and the maps.

Depression



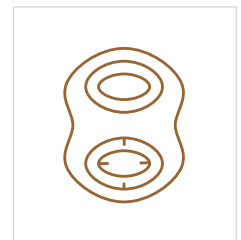
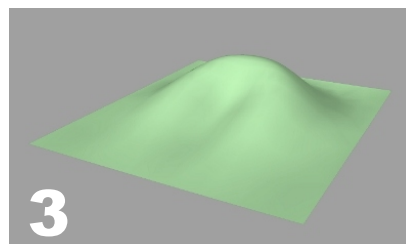
A

Spur



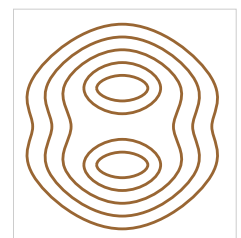
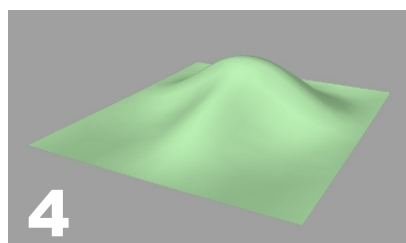
B

Saddle



C

Gully



D

On Course - Race Day

To complete an orienteering course, you must navigate from the start point to the finish, via a series of control points. The competitor who completes the course fastest is the winner.

Orienteers use special symbols to indicate these points on the map. At major events, you first see the map and the course that is drawn on it when your time starts! Therefore, it is important to understand these symbols.

Additional symbols are used to help inform your choice of route: dangerous or forbidden areas, forbidden routes, routes marked with flags, uncrossable boundaries, crossing points and water and first-aid points.

A white and orange control flag will be found in the centre of the marked circle.

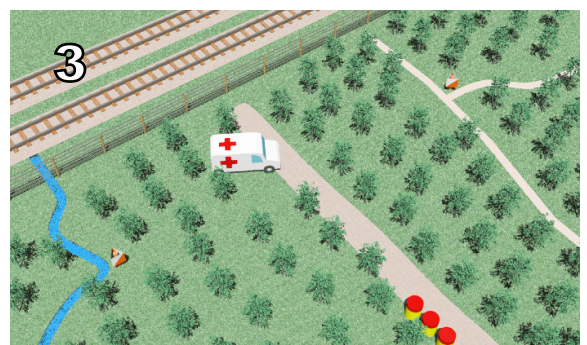
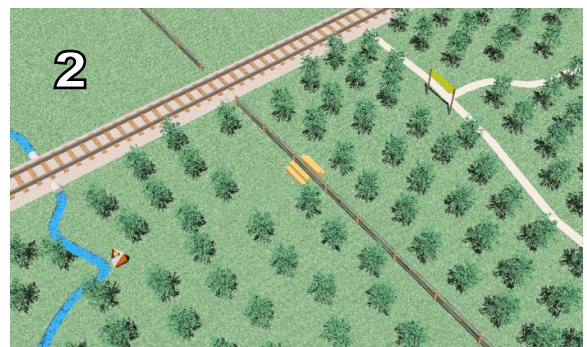
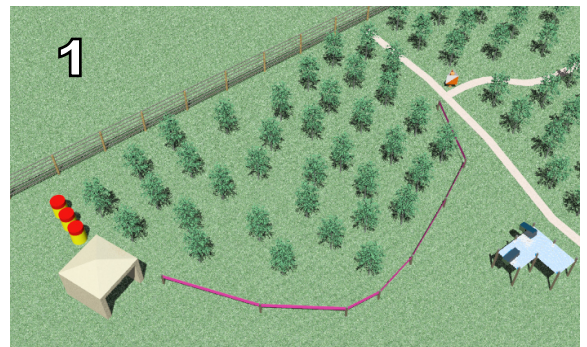
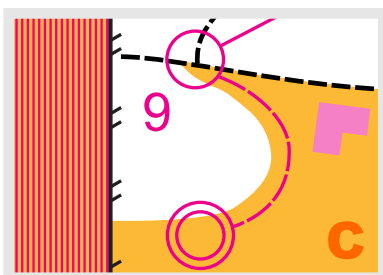
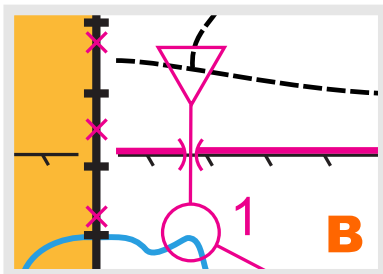
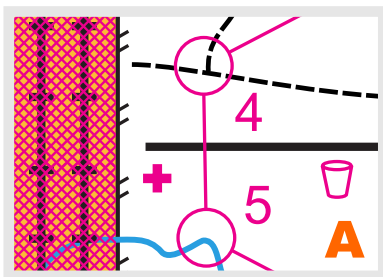
Note that water and first-aid are always available at the finish, but are not marked on the map.

Purple

	Start
	Control Point (number)
	Line (control order)
	Marked Route
	Finish
	Uncrossable Boundary
	Crossing Point
	Temporary Construction
	Water Point
	First-Aid Point
	Forbidden Route
	Forbidden Area
	Dangerous Area

Task

Match the maps on the left with the views on the right



Introduction to Colours

Orienteering maps use a variety of symbols to show many different features that you will find in the forest. Symbols use colours related to the type of feature they represent. This sheet introduces the major colour groups.

Black - Hard, Man-made

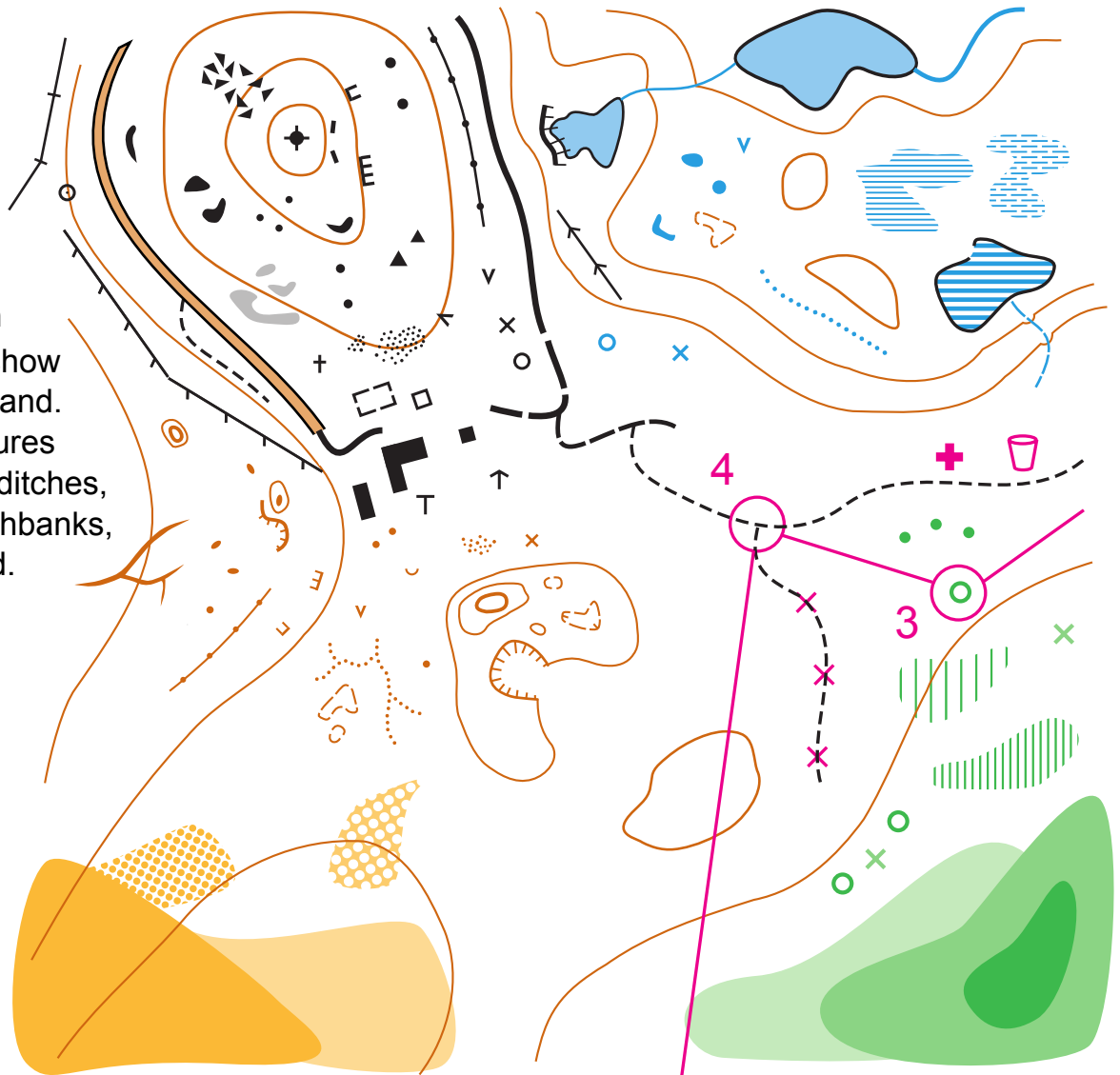
Black symbols include rocks, cliffs, roads, paths, fences, walls, buildings, and other man made features. Some black features are dangerous.

Blue - Wet

Blue symbols include lakes, ponds, streams, watercourses, marshes, and other features related to water.

Brown - Made of earth

Brown contours show the shape of the land. Other brown features include mounds, ditches, depressions, earthbanks, and rough ground.



Yellow - Open land

Yellow areas have no or fewer trees - faster running and better visibility.

White - Tree Cover

White forest is typical - widely-spaced trees.

Green - Thick forest

Green areas have more trees and bushes - slower running and poorer visibility.

Purple - Race information

The course and other important race information such as water points is shown in purple.



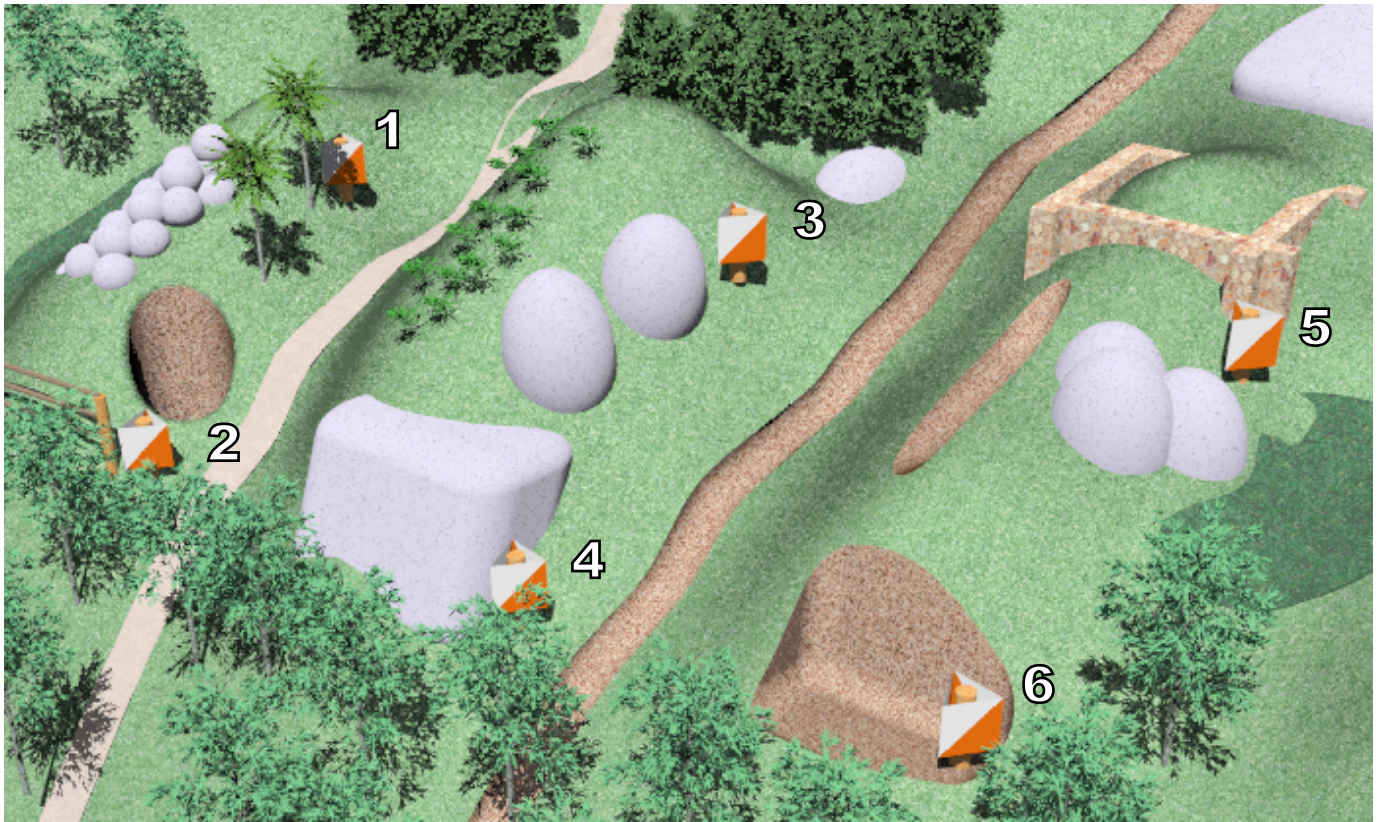
ORIENTEERING MAPS

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Putting it All Together

Task Identify the flags that correspond to the marked circles



Note that not all flags are in view, and not all flags have circles, which limits what you can match.

