All of the combinations of Aperture and Shutter Speed in the table below will produce the same exposure at least in terms of the brightness of the photo.
The table only shows full one-stop increments in shutter speed and aperture. Many cameras and lenses can be set in one-half or one-third stop increments.
Depending on the camera and lens, only some of the values in the table will be available. The shaded values are not too common.
On a bright, sunny day, these combinations would produce a good exposure using ISO 100 film.

Aperture (f/stop)	Shutter Speed
1.4	
2	1/8000
2.8	1/4000
4	1/2000
5.6	1/1000
8	1/500
11	1/250
16	1/125
22	1/60
32	1/30
45	1/15
64	1/8
	1/4
	1/2

Shutter speed represents a fraction of one second. Shutter speed controls the amount of light reaching the film, but also the degree to which subject motion is frozen or blurred.

This combination would stop extreme motion such as splashing water, movement of insect wings, etc.

This combination would stop most human and animal movements, but not the wing movement of many small birds.

This combination works well with limited subject movement.

One-half second, not available with this much light, will generally produce a silky blur in a water fall.

In a situation with less light (3 stops less in this table), you, or the camera, must compensate to allow enough light to reach the film.
This can be done by either leaving the shutter open longer or by opening the aperture farther.
You can see how the possible combinations for correct exposure compare to the table above.
The combinations below might represent the available options on a cloudy day using ISO 100 film depending on the amount of cloud cover.

Aperture (f/stop)	Shutter Speed
	1/8000
	1/4000
1.4	1/2000
2	1/1000
2.8	1/500
4	1/250
5.6	1/125
8	1/60
11	1/30
16	1/15
22	1/8
32	1/4
45	1/2
64	1"

Aperture values represent a ratio of focal length to diamater of the lens opening, therefore, f/4 or f=1:4 means that the aperture's diamater is 1/4 the focal length of the lens. So, with aperture values, the smaller number is a larger opening and lets in more light. The larger number is a smaller opening and lets in less light.

Aperture also controls the depth of field, in other words the range from near to far in the picture in which the objects appear to be in focus.

This combination would produce a narrow depth of field and would be good for a portrait where the background is out of focus.

This aperture would produce a large depth of field and would be good for a landscape picture where you want everything from near to far to appear in focus. Watch out for a breeze, though, which could cause the tall grass to blur due to the slow shutter speed.

In a situation with much less light, 10 stops less in this case compared to the bright sunny day, shutter speeds become quite long.
This might represent the options available when shooting indoors without a flash using ISO 100 film.
The amount of light from windows or light fixtures can make a big difference, though, one way or the other.

Aperture (f/stop)	Shutter Speed
1.4	1/15
2	1/8
2.8	1/4
4	1/2
5.6	1"
8	2"
11	4"
16	8"
22	15"
32	30"
45	1 min
64	2 min

Increasing the film sesitivity by 3 stops would help the shutter speed as shown in the table at right.
(ISO 100 > 200 > 400 > 800)

Aperture (f/stop)	Shutter Speed
1.4	1/125
2	1/60
2.8	1/30
4	1/15
5.6	1/8
8	1/4
11	1/2
16	1"
22	2"
32	4"
45	8"
64	15"