Summary: Winds on Upper-Level Charts

- PGF perpendicular
- Coriolis opposite to balance
- Winds along the contours
Which point has the bigger wind?
An example 300 mb chart, showing height contours, winds (arrows with feathers) and wind speeds (colors)
Summary: Winds on Surface Maps

Basically the same deal at the ground, but......because of friction, the winds cross the isobars towards lower pressure.
so maybe something like this

schematic winds on a surface map, converging towards low pressure
An example surface map, showing isobars (contours) and winds (arrows with feathers)
Schematic showing winds in balance at upper levels (roughly), while......

......at the ground, winds are affected by friction.
Surface Convergence and Rising Air

Now, at the ground, the air crosses the isobars toward lower pressure. Which means.....

- Around low pressure the air tends to converge into the center, while.....
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- Around low pressure the air tends to converge into the center, while.....
- Around high pressure the air tends to diverge away from the center.
As air converges into a low center, it has to go somewhere.....so it rises. And as air diverges away from a high, it's replaced by air sinking from above. So the basic rule of thumb is
And keep in mind that rising air tends to produce clouds and precipitation, which brings us back to our original rule of thumb:

Relatively speaking, cyclones are areas with cloudy and rainy weather, while anticyclones are typically clear and sunny!
Forecast for a day last spring, showing pressure (thin white contours) and predicted rain (green) and snow (blue and pink).