3rd degree Heart Block: In lead II, the PR interval varies, and occasionally there are 2 P-waves in a row without an R wave. Axis = 30

Atrial Fibrillation: There are no P-waves visible in any lead, just a continuous wave-like baseline. Axis = 70
Left Ventricular Hypertrophy: The R-wave is larger than 20 mm in some leads, and off the edge of the chart in the pre-cordial leads. The enlarged left ventricle has much greater electrical activity. Axis = 45

Right Bundle Branch Block: The QRS complex is wider than normal. Because the bundle branch is damaged, conduction must go cell-to-cell rather than along the bundles. This is slower. So it takes longer for the entire depolarization to finish. Axis = -90
ST segment elevation from Myocardial Infarction: This is an extreme case of elongated QRS complex. The QRS isn’t finished before the T-wave starts. The beginning of the T-wave combines with the end of the QRS, and obscures the return of the QRS to the baseline. Axis = 60

Ventricular Tachycardia: The R-R interval is very short, indicating a fast heart rate. The appearance of the QRS complex is very unusual because the AV node is damaged and the depolarization is originating from another spot (“ectopic pacemaker”). So it doesn’t look like the “average” QRS. Students can't figure out an axis from what they have been taught in class.
2\textsuperscript{nd} degree Heart Block (Type 1): The PR interval varies. However, every P has a QRS. This is less dangerous than the first EKG (third degree block) and often disappears when the heart rate increases. Axis = 85