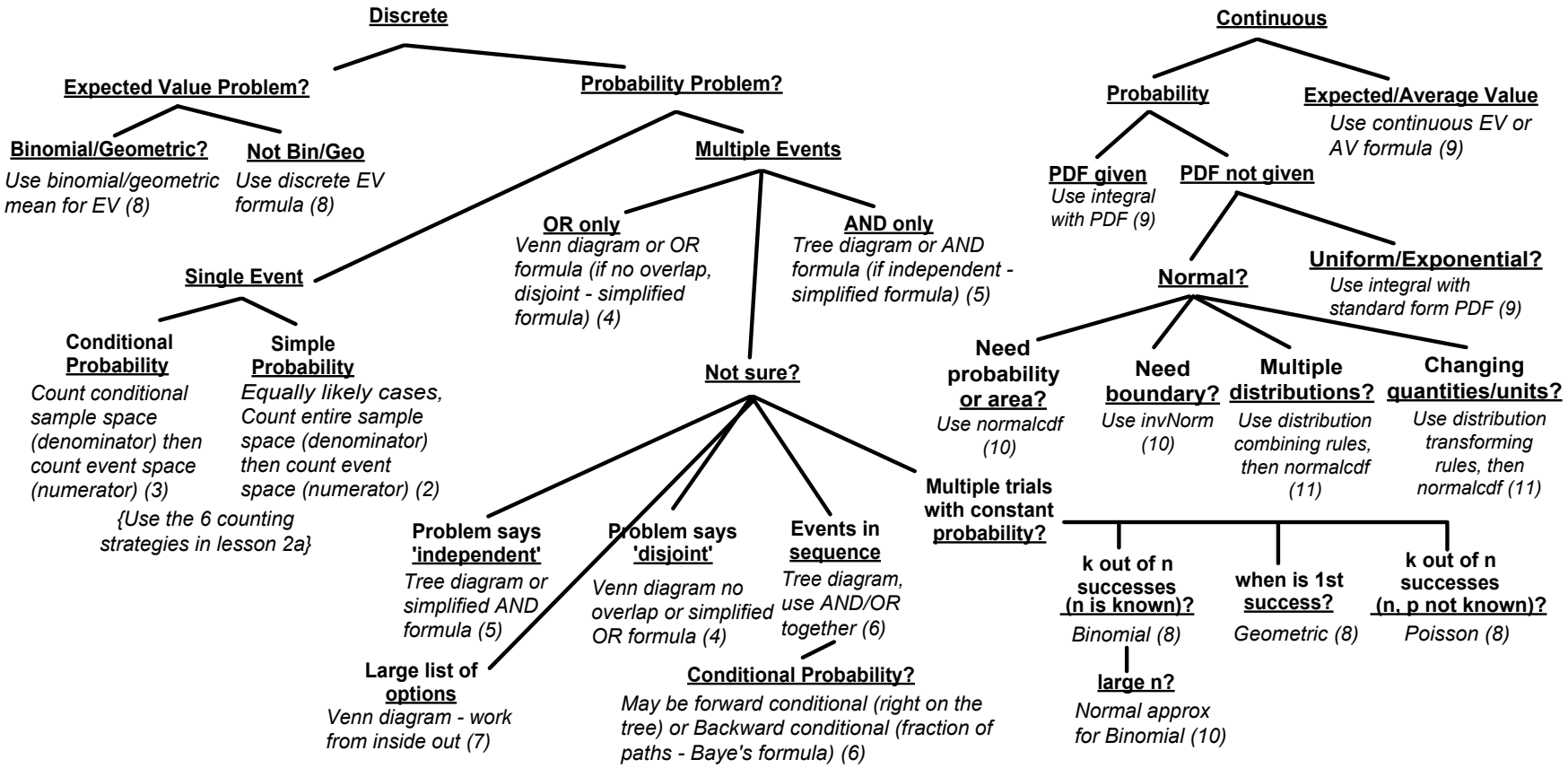
Discrete
Expected Value Problem?
Binomial/Geometric?
Use binomial/geometric mean for EV (8)
Not Bin/Geo
Use discrete EV formula (8)
Probability Problem?
Single Event
Conditional Probability
Count conditional sample space (denominator) then count event space (numerator) (3)
Simple Probability
Equally likely cases, Count entire sample space (denominator) then count event space (numerator) (2)
{Use the 6 counting strategies in lesson 2a}
Multiple Events
OR only
Venn diagram or OR formula (if no overlap, disjoint - simplified formula) (4)
AND only
Tree diagram or AND formula (if independent - simplified formula) (5)
Not sure?
Problem says 'independent'
Tree diagram or simplified AND formula (5)
Problem says 'disjoint'
Venn diagram no overlap or simplified OR formula (4)
Events in sequence
Tree diagram, use AND/OR together (6)
Large list of options
Venn diagram - work from inside out (7)
Conditional Probability?
May be forward conditional (right on the tree) or Backward conditional (fraction of paths - Baye's formula) (6)
Continuous
Probability
PDF given
Use integral with PDF (9)
PDF not given
Normal?
Need probability or area?
Use normalcdf (10)
Need boundary?
Use invNorm (10)
Multiple distributions?
Use distribution combining rules, then normalcdf (11)
Changing quantities/units?
Use distribution transforming rules, then normalcdf (11)
Uniform/Exponential?
Use integral with standard form PDF (9)
Expected/Average Value
Use continuous EV or AV formula (9)
Multiple trials with constant probability?
k out of n successes (n is known)?
Binomial (8)
large n?
Normal approx for Binomial (10)
when is 1st success?
Geometric (8)
k out of n successes (n, p not known)?
Poisson (8)