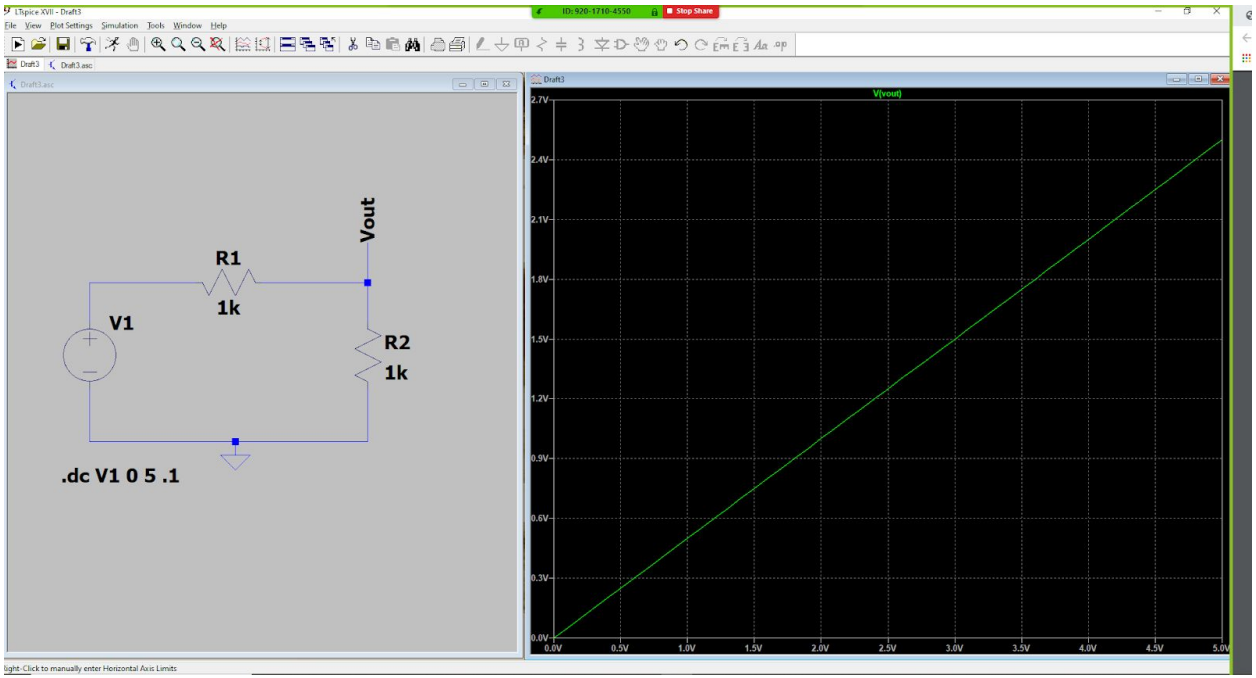
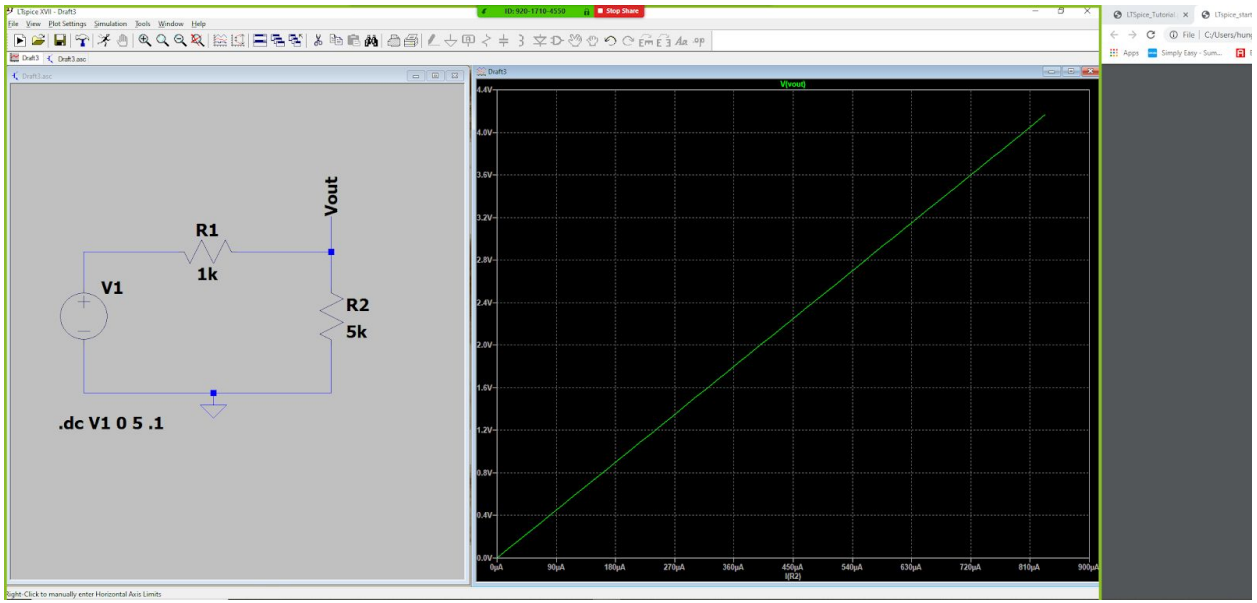
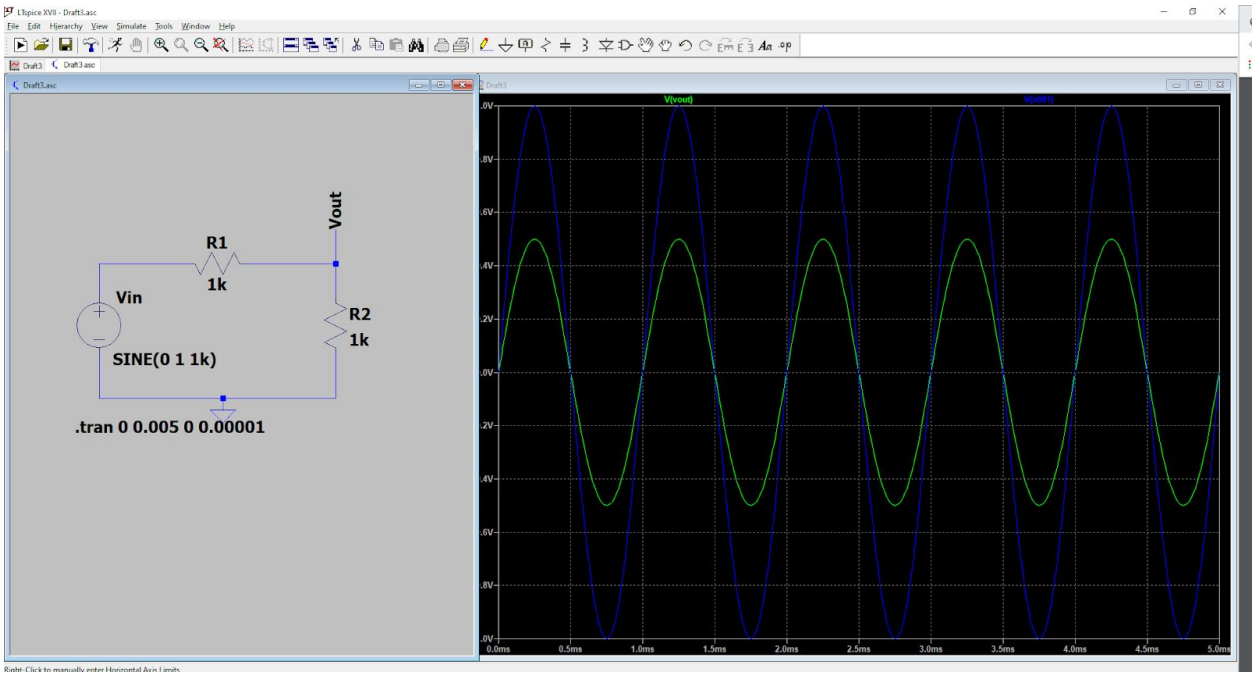


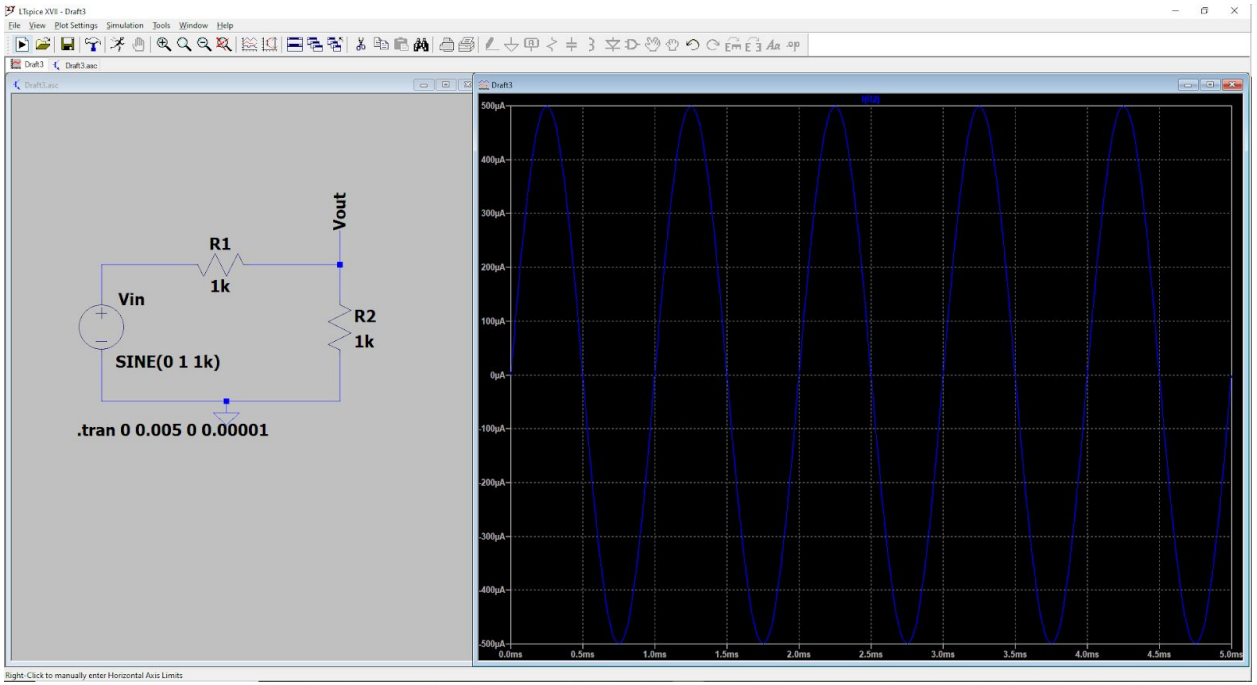
Part 2.3 Vout vs Vin



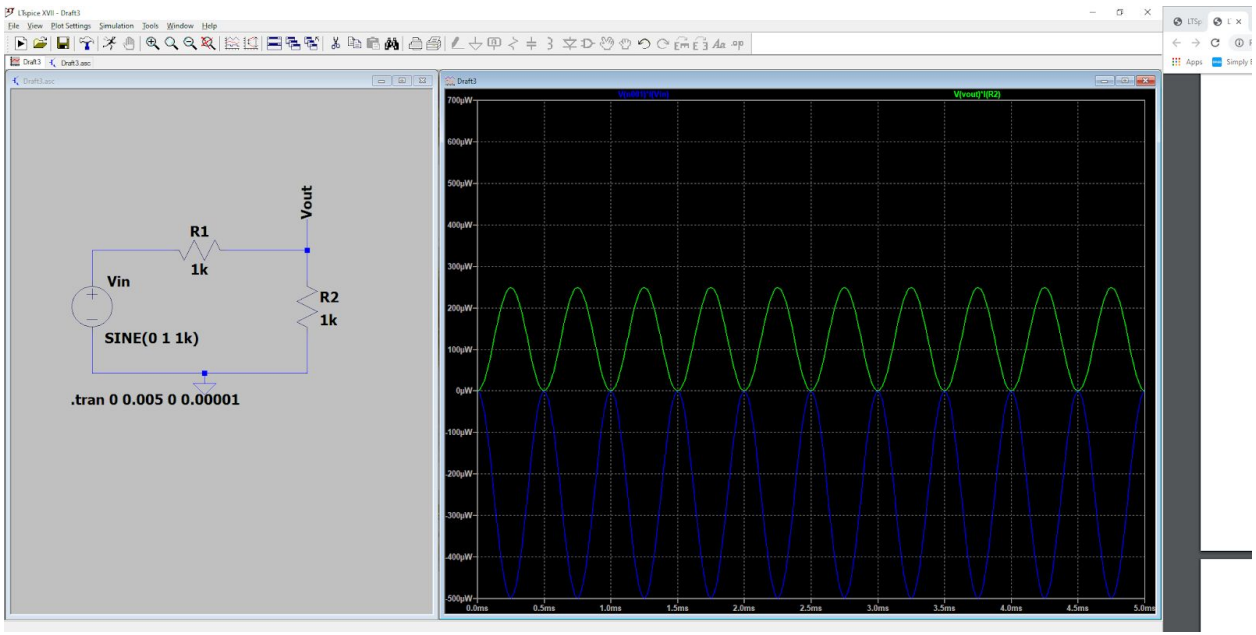
Part 2.4 Vout vs Vin



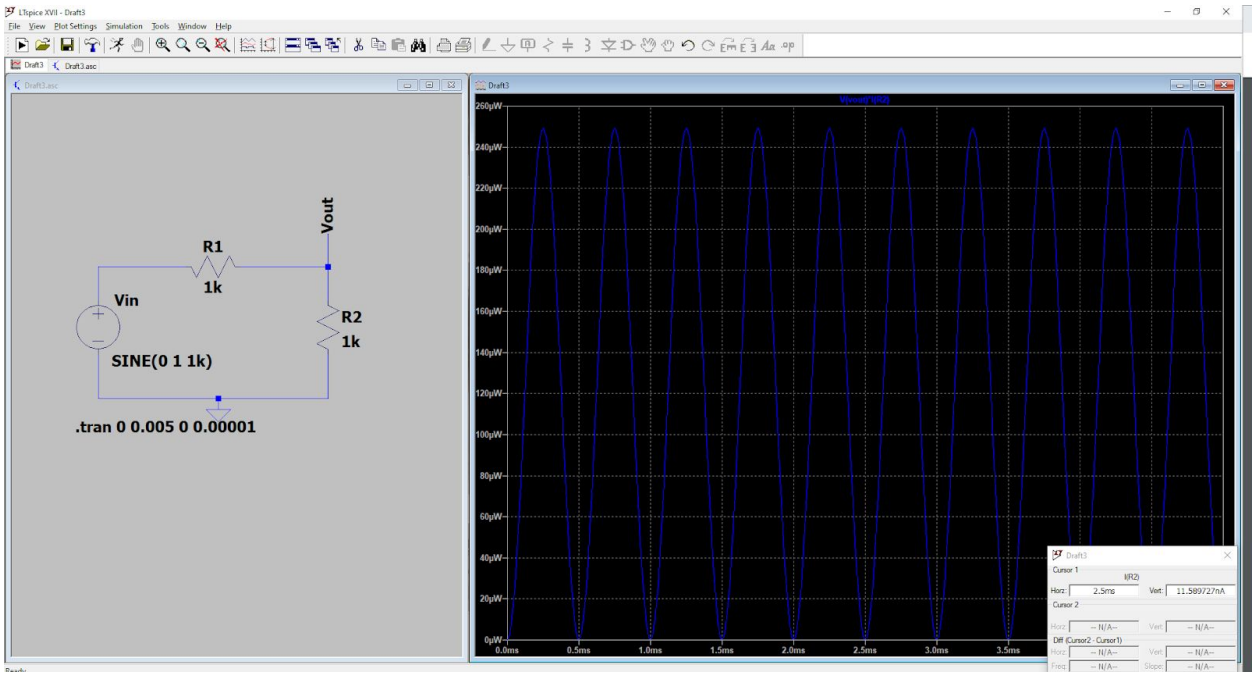
Part 2.5 Vout vs Iout



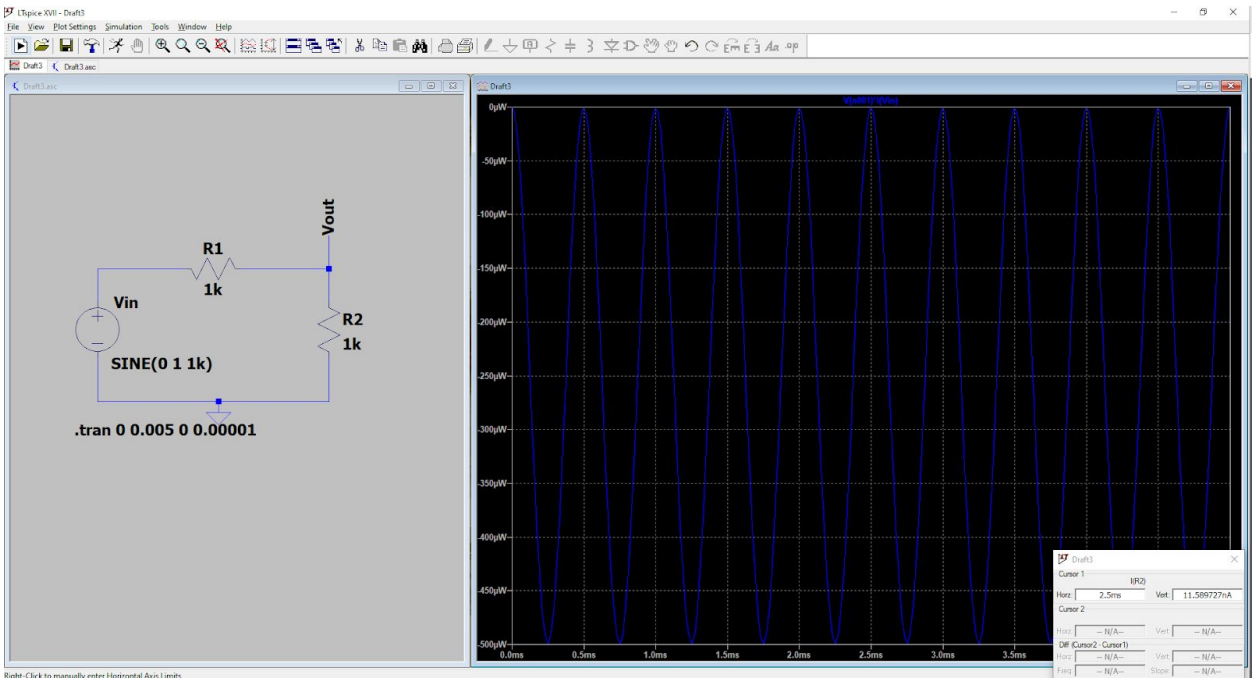
Part 3.4 Vin vs Vout


Vout
R1
1k
Vin
R2
1k
SINE(0 1 1k)
.tran 0 0.005 0 0.00001
V(vout)*I(R2)
700µW
600µW
500µW
400µW
300µW
200µW
100µW
0µW
-100µW
-200µW
-300µW
-400µW
-500µW
0.0ms
0.5ms
1.0ms
1.5ms
2.0ms
2.5ms
3.0ms
3.5ms
4.0ms
4.5ms
5.0ms

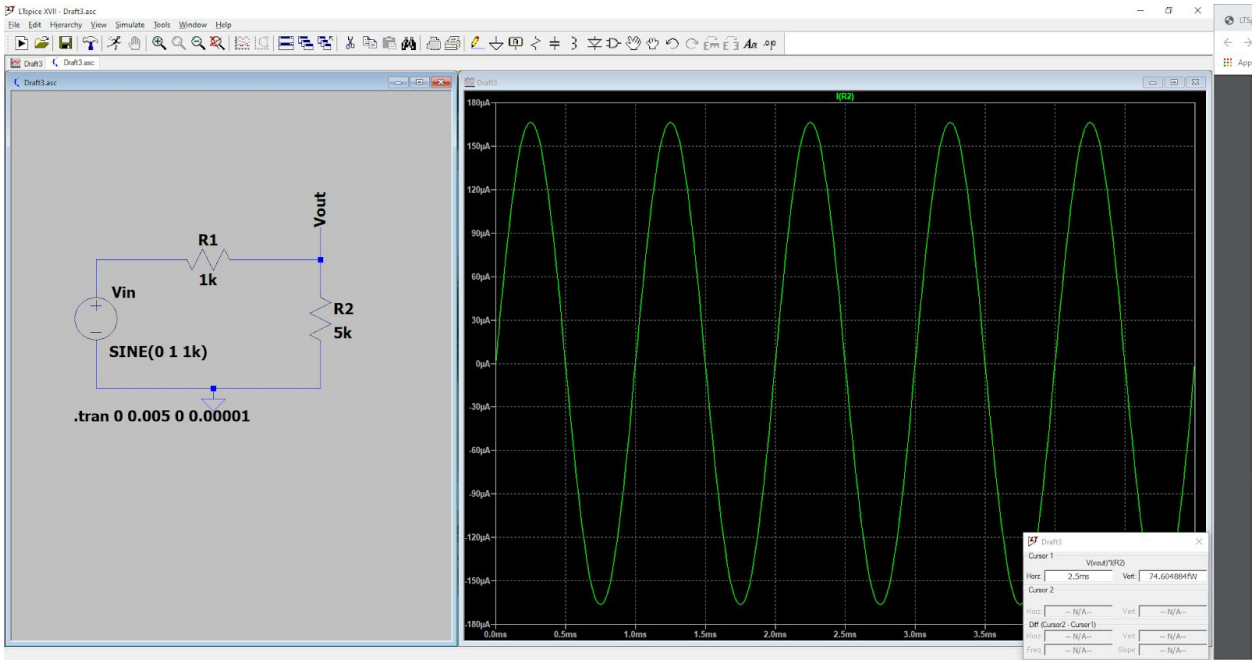
Part 3.6 Iout



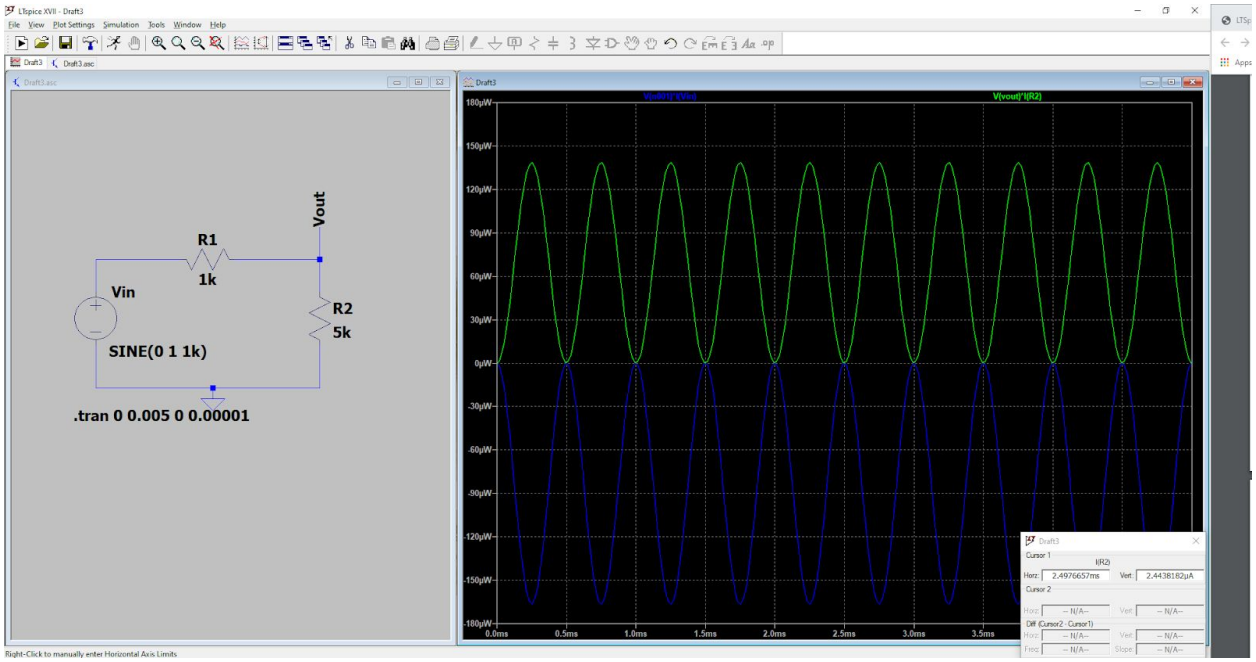
Part 3.7 Power of R2 and Vin



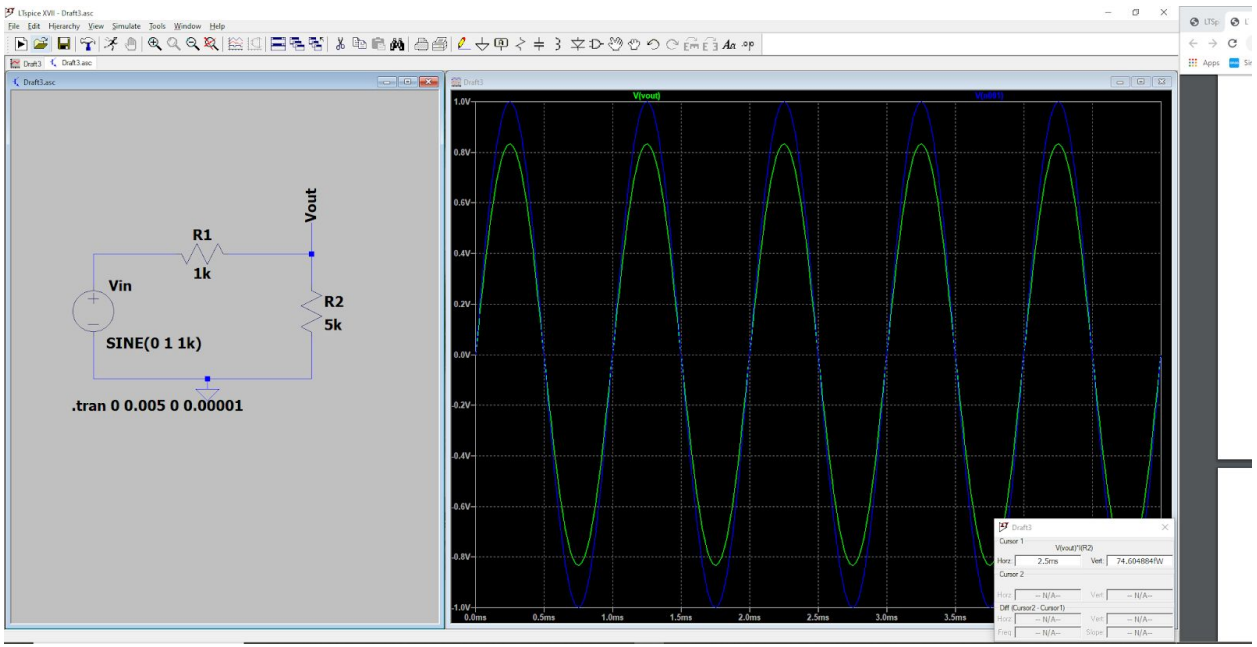
Part 3.7 Power of R2



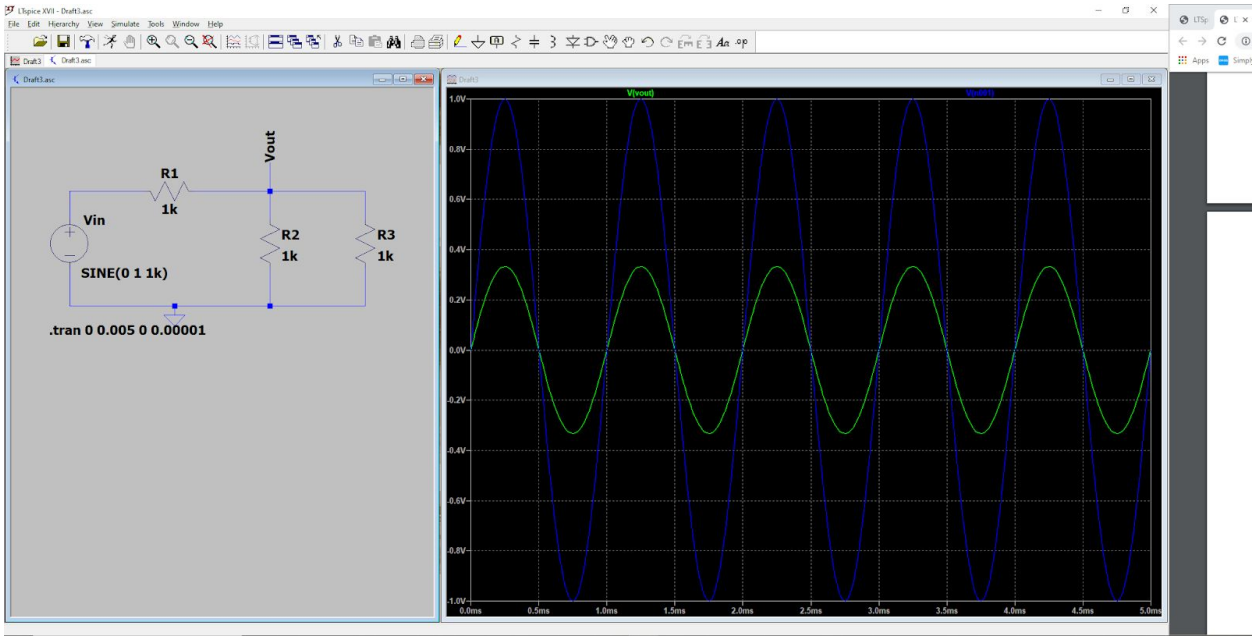
Part 3.7 Power of Vin



Part 3.8 Iout with modified R2



Part 3.8 Power delivered with modified r2


Vout
R1
1k
Vin
R2
1k
R3
1k
SINE(0 1 1k)
.tran 0 0.005 0 0.00001
V(vout)
1.0V
0.8V
0.6V
0.4V
0.2V
0.0V
-0.2V
-0.4V
-0.6V
-0.8V
-1.0V
0.0ms
0.5ms
1.0ms
1.5ms
2.0ms
2.5ms
3.0ms
3.5ms
4.0ms
4.5ms
5.0ms

Part 4

Op amps have upper and lower limits on current and voltage. These limits exist because the calculations for op amps are based off the linear region for op amps. Therefore if a resistor value is too large or too small, the current or voltage will reach saturation instead of the theoretical value we are calculating for. Due to these limits, some resistor values will not produce valid theoretical results