A black background with a black square

Description automatically generated with medium confidence

Vout= 4.5V1 – 14.5

V2= -9V

A = (R2/R1 + 1)

Iin = (V2 – V1) / (R3 + R4)

Iin = -9 / (R3 + R4) when V1 = 0

R3 + R4 = 4e6

Iin = -9/4e6 = -2.25e-6

V+ = (V2 – V1) + R4Iin = -9 + R4(-2.25e-6)

V+ = -9 + -9R4/(R3 + R4)

V+ = -9(1 + R4/(R3 + R4))

V+/-9 = 1 + R4/(R3 + R4)

V+/-9 - 1 = R4/(R3 + R4)

V+ = (V2 – V1)(1 + R4/(R3 + R4))

V+/(V2 – V1) = 1 + R4/(R3 + R4)

V+/(V2 – V1) - 1 = R4/(R3 + R4)

A(V2R3 / R3 + R4) = -14.5 when V1 = 0

AR4/(R3 + R4) = 4.5

AR4 = 4.5(R3 + R4)

AR4 – 4.5R4 = 4.5R3

R3 = (AR4 – 4.5R4)/4.5

R3 = R4(A – 4.5) / 4.5

-9R3 / -14.5 = R3 + R4

.6207R3 – R3