In the following circuit the op amp is ideal.

2. (a) What op amp configuration is this?
   Non-inverting amplifier

5. (b) Find the closed loop voltage gain $V_o/V_s$.

\[
\frac{V_p}{75} + \frac{V_o - V_s}{25} = 0
\]

\[
V_p = \frac{75}{25+75} \quad V_s = \frac{3}{4} V_s
\]

\[
V_n = V_p = 0.75 V_s
\]

\[
0.75 V_s + \frac{0.75 V_s - V_0}{8} = 0
\]

\[
V_0 = \frac{3 \times 75 V_s}{8}
\]

3. (c) Find the range of values for $V_s$ such that $V_0$ does not saturate and the op amp remains in its linear region of operation.

$V_0 = +15 \Rightarrow V_s = 4$ V

$V_0 = -9$ V $\Rightarrow$ $V_s = -2.4$ V