(2) 1. Write the formula for each of the following compounds:

sodium sulfate \( \text{Na}_2\text{SO}_4 \)
calcium chloride \( \text{CaCl}_2 \)

(2) 2. Write the correct name for each of the following compounds:

\( \text{FeCl}_3 \) iron (III) chloride
\( \text{KClO}_4 \) potassium perchlorate

(4) 3. a. Draw the Lewis dot structures for \( \text{SO}_3 \) and \( \text{SO}_3^2^- \). Show all resonance structures where appropriate.

![Lewis dot structures](image)

b. Which of the two sulfur species in part a would you expect to have the shorter S-O bond? Why?

\( \text{[SO}_3\text{]}^2^- \) would have the shorter S-O bond length
Bond order for \( \text{SO}_3 \) = 1 \( \frac{1}{3} \)
Bond order for \( \text{SO}_3^2^- \) = 1