Computing the Gradient

Let the position vector be given by $\boldsymbol{r} = x\boldsymbol{i} + y\boldsymbol{j} + z\boldsymbol{k}$, with $r = |\boldsymbol{r}| = \sqrt{x^2 + y^2 + z^2}$.
Compute the gradient of the following scalar fields and write the result in terms of $\boldsymbol{r}$ and r.

(a) $\phi(x, y, z) = x^2 + y^2 + z^2$;

(b) $\phi(x, y, z) = \dfrac{1}{\sqrt{x^2 + y^2 + z^2}}$

✓ **Completed**

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