Blue vector: $\vec{B} = -2\hat{i} + -2\hat{j} + -2\hat{k}$

Red vector: $\vec{R} = 2\hat{i} + 2\hat{j} - 4\hat{k}$

Resulting vector $\vec{C} = (2-2)\hat{i} + (2-2)\hat{j} + (-2-4)\hat{k}$

$$\boxed{\vec{C} = -6\hat{k}}$$

Magnitude $= C = \sqrt{0^2 + 0^2 + -6^2} = 6$

$$\boxed{\|C\| = 6}$$

$\alpha = \cos^{-1}\dfrac{C_x}{C} = \cos^{-1}\left(\dfrac{C}{6}\right) = \boxed{90°}$

$\beta = \cos^{-1}\dfrac{C_y}{C} = \cos^{-1}\left(\dfrac{0}{6}\right) = \boxed{90°}$

$\gamma = \cos^{-1}\dfrac{C_z}{C} = \cos^{-1}\left(\dfrac{-6}{6}\right) = \boxed{180°}$