9.1

1) $\left\| \begin{pmatrix} \frac{3}{5} \\ -\frac{4}{5} \end{pmatrix} \right\| = \sqrt{\left(\frac{3}{5}\right)^2 + \left(-\frac{4}{5}\right)^2} = \sqrt{\frac{9}{25} + \frac{16}{25}} = \sqrt{\frac{25}{25}} = \sqrt{1} = 1$

2) $\left\| \begin{pmatrix} -\frac{1}{\sqrt{5}} \\ \frac{6}{\sqrt{45}} \end{pmatrix} \right\| = \sqrt{\left(-\frac{1}{\sqrt{5}}\right)^2 + \left(\frac{6}{\sqrt{45}}\right)^2} = \sqrt{\frac{1}{5} + \frac{36}{45}} = \sqrt{\frac{1}{5} + \frac{4}{5}} = \sqrt{\frac{5}{5}} =$

$$= \sqrt{1} = 1$$

3) $\left\| \begin{pmatrix} \frac{2}{3} \\ -\frac{1}{3} \\ -\frac{2}{3} \end{pmatrix} \right\| = \sqrt{\left(\frac{2}{3}\right)^2 + \left(-\frac{1}{3}\right)^2 + \left(-\frac{2}{3}\right)^2} = \sqrt{\frac{4}{9} + \frac{1}{9} + \frac{4}{9}} = \sqrt{\frac{9}{9}} = \sqrt{1} = 1$