

STEP/Inequalities Q3 (20/6/23)

Is $\frac{6}{7} < \frac{2}{\sqrt{5}}$? [without using a calculator]

Solution

$$\frac{6}{7} < \frac{2}{\sqrt{5}} \Leftrightarrow \frac{36}{49} < \frac{4}{5}$$

$$49 \times 0.8 = \frac{1}{10} (320 + 72) = 39.2 > 36$$

$$\text{So } \frac{36}{49} < \frac{39.2}{49} = 0.8 = \frac{4}{5}$$

Answer is Yes.