

(1) Arrange the following fractions in ascending order:

(a) $\frac{3}{4}$; $\frac{2}{3}$ and $\frac{4}{5}$: $\frac{3}{4} = \frac{45}{60}$; $\frac{2}{3} = \frac{40}{60}$; $\frac{4}{5} = \frac{48}{60}$

$$\therefore \frac{2}{3} < \frac{3}{4} < \frac{4}{5}$$

(b) $\frac{2}{3}$; $\frac{5}{7}$ and $\frac{4}{6}$: $\frac{2}{3} = \frac{28}{42}$; $\frac{5}{7} = \frac{30}{42}$; $\frac{4}{6} = \frac{28}{42}$

$$\therefore \frac{2}{3} = \frac{4}{6} < \frac{5}{7}$$

(2) Arrange the following fractions in descending order:

(a) $\frac{5}{8}$; $\frac{2}{3}$ and $\frac{3}{4}$: $\frac{5}{8} = \frac{15}{24}$; $\frac{2}{3} = \frac{16}{24}$; $\frac{3}{4} = \frac{18}{24}$

$$\therefore \frac{3}{4} > \frac{2}{3} > \frac{5}{8}$$

(b) $-1\frac{1}{2}$; $-1\frac{2}{3}$ and $\frac{-7}{5}$: $\frac{-3}{2} = \frac{-45}{30}$; $\frac{-5}{3} = \frac{-50}{30}$; $\frac{-7}{5} = \frac{-42}{30}$

$$\therefore \frac{-7}{5} > -1\frac{1}{2} > -1\frac{2}{3}$$

(3) Place a rational number between each of the following numbers:

(a) $\frac{-1}{3}$ and $\frac{-3}{5}$: $\frac{-1}{3} = \frac{-5}{15}$ and $\frac{-3}{5} = \frac{-9}{15}$

$$\therefore \frac{-3}{5} < \frac{-8}{15} \text{ or } \frac{-7}{15} \text{ or } \frac{-6}{15} < \frac{-1}{3}$$

(b) $\frac{3}{4}$ and $\frac{7}{10}$: $\frac{3}{4} = \frac{15}{20} = \frac{30}{40}$ and $\frac{7}{10} = \frac{14}{20} = \frac{28}{40}$

$$\therefore \frac{7}{10} < \frac{29}{40} < \frac{3}{4}$$