

Exercise 4B

2	4,12,16,24
2	2,6,8,12
2	1,3,4,6
2	1,3,2,3
3	1,3,1,3
	1,1,1,1

L. C. M. of 4, 12, 16 and 24 is 48.

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$$\frac{-3 \times 12}{4 \times 12} = \frac{-36}{48}$$

$$\frac{-5 \times 4}{12 \times 4} = \frac{-20}{48}$$

$$\frac{-7 \times 3}{16 \times 3} = \frac{-21}{48}$$

$$\frac{-9 \times 2}{24 \times 2} = \frac{-18}{48}$$
Required order: $\frac{-3}{4} < \frac{-7}{16} < \frac{-5}{12} < \frac{-9}{24}$

$$\left(\text{iii}\right)\frac{-3}{10}, \frac{7}{-15}, \frac{-11}{20}, \frac{17}{-30}$$

 $\left(\text{iii} \right) \frac{-3}{10} \,, \frac{7}{-15} \,, \frac{-11}{20} \,, \frac{17}{-30}$ First, we need to convert the negative denominators to make them positive.

$$\begin{array}{c} -3 \\ \frac{-3}{10}, \frac{7 \times -1}{-15 \times -1}, \frac{-11}{20}, \frac{17 \times -1}{-30 \times -1} \\ \frac{-3}{10}, \frac{-7}{15}, \frac{-11}{20}, \frac{-17}{30} \end{array}$$

5	10,15,20,30
2	2,3,4,6
3	1,3,2,3
3	1,3,1,3
	1,1,1,1

L. C. M of 10, 15, 20, 30 = 60

$$\begin{array}{l} \frac{-3\times6}{10\times6} = \frac{-18}{60} \\ \frac{-7\times4}{15\times4} = \frac{-28}{60} \\ \frac{-11\times3}{20\times3} = \frac{-33}{60} \\ \frac{-17\times2}{30\times2} = \frac{-34}{60} \end{array}$$
 Therefore, $\frac{-34}{60} < \frac{-33}{60} < \frac{-28}{60} < \frac{-18}{60}$ i.e. $\frac{-17}{30} < \frac{-11}{20} < \frac{-7}{15} < \frac{-3}{10}$

$$\left(\text{iv}\right)\frac{2}{3},\frac{3}{4},\frac{5}{-6},\frac{-7}{12}$$

First, we need to convert the negative denominators to positive ones.

$$\frac{2}{3}, \frac{3}{4}, \frac{5 \times -1}{-6 \times -1}, \frac{-7}{12}$$
$$\frac{2}{3}, \frac{3}{4}, \frac{-5}{6}, \frac{-7}{12}$$

$${\rm L.\,C.\,M\,\,of\,}3,4,6,12=12$$

$$\begin{aligned} \frac{2\times 4}{3\times 4} &= \frac{8}{12} \\ \frac{3\times 3}{4\times 3} &= \frac{9}{12} \\ \frac{-5\times 2}{6\times 2} &= \frac{-10}{12} \\ \frac{-7\times 1}{12\times 1} &= \frac{-7}{12} \end{aligned}$$

Therefore, the correct order is $\frac{-5}{6}<\frac{-7}{12}<\frac{2}{3}<\frac{3}{4}$.

********** END ********