

Foundation GCSE: Ordering Fractions

Name: _____

Class: _____

Instructions: Answer all questions. Questions are ordered from easiest (1) to hardest (20). Working out should be shown where appropriate.

1. Order from smallest to largest: $\frac{3}{7}, \frac{1}{7}, \frac{5}{7}$.
2. Order from smallest to largest: $\frac{2}{5}, \frac{2}{3}, \frac{2}{9}$.
3. Which is larger: $\frac{3}{4}$ or $\frac{2}{3}$?
4. Order from smallest to largest: $\frac{1}{2}, \frac{3}{8}, \frac{3}{4}$.
5. Insert $<, >$, or $=$: $\frac{4}{5} \dots \frac{7}{10}$.
6. Order from largest to smallest: $\frac{2}{3}, \frac{5}{9}, \frac{7}{12}$.
7. Which is larger: $\frac{5}{6}$ or $\frac{7}{9}$?
8. Order from smallest to largest: $\frac{3}{5}, \frac{7}{10}, \frac{13}{20}$.
9. Insert $<, >$, or $=$: $\frac{5}{8} \dots \frac{3}{5}$.
10. Order from smallest to largest: $\frac{7}{12}, \frac{2}{3}, \frac{5}{8}$.
11. Which fraction is closest to $\frac{1}{2}$: $\frac{4}{7}$ or $\frac{5}{9}$?
12. Order from smallest to largest: $1\frac{1}{4}, \frac{9}{8}, 1\frac{3}{10}$.
13. Insert $<, >$, or $=$: $-\frac{3}{4} \dots -\frac{2}{3}$.
14. Order from smallest to largest: $\frac{4}{5}, \frac{17}{20}, \frac{7}{8}, \frac{3}{4}$.
15. Find a fraction that lies exactly halfway between $\frac{1}{3}$ and $\frac{1}{2}$.
16. Order from smallest to largest: $-\frac{5}{6}, -\frac{3}{4}, -\frac{7}{8}$.
17. Which of the following fractions is greater than $\frac{3}{5}$ but smaller than $\frac{2}{3}$: $\frac{7}{12}, \frac{19}{30}, \frac{11}{18}$?
18. Order from largest to smallest: $\frac{5}{12}, \frac{7}{18}, \frac{11}{30}$.
19. Find two fractions with denominators of 12 that lie between $\frac{1}{3}$ and $\frac{1}{2}$.
20. Given $a = \frac{7}{10}, b = \frac{23}{32}, c = \frac{3}{4}$, order a, b , and c from smallest to largest.

Answers & Worked Solutions

1. $\frac{1}{7}, \frac{3}{7}, \frac{5}{7}$
Same denominators; compare numerators.
2. $\frac{2}{9}, \frac{2}{5}, \frac{2}{3}$
Same numerators; larger denominator means smaller fraction.
3. $\frac{3}{4}$
Convert to common denominator 12: $\frac{9}{12}$ vs $\frac{8}{12}$.
4. $\frac{3}{8}, \frac{1}{2}, \frac{3}{4}$
Convert to common denominator 8: $\frac{4}{8}, \frac{3}{8}, \frac{6}{8}$.
5. $\frac{4}{5} > \frac{8}{10}$, which is greater than $\frac{7}{10}$.
6. $\frac{2}{3}, \frac{7}{12}, \frac{5}{9}$
Common denominator 36: $\frac{24}{36}, \frac{21}{36}, \frac{20}{36}$.
7. $\frac{5}{6}$
Common denominator 18: $\frac{15}{18}$ vs $\frac{14}{18}$.
8. $\frac{3}{5}, \frac{13}{20}, \frac{7}{10}$
Common denominator 20: $\frac{12}{20}, \frac{13}{20}, \frac{14}{20}$.
9. $\frac{25}{40}$ vs $\frac{24}{40}$, so $\frac{5}{8} > \frac{3}{5}$.
10. $\frac{7}{12}, \frac{5}{8}, \frac{2}{3}$
Common denominator 24: $\frac{14}{24}, \frac{15}{24}, \frac{16}{24}$.
11. $\frac{5}{9}$
 $\frac{5}{9} - \frac{1}{2} = \frac{1}{18} \approx 0.056$; $\frac{4}{7} - \frac{1}{2} = \frac{1}{14} \approx 0.071$, so $\frac{5}{9}$ is closer.
12. $\frac{9}{8}, 1\frac{1}{4}, 1\frac{3}{10}$
 $1\frac{1}{8}, 1\frac{1}{4}, 1\frac{3}{10}$. Compare $1\frac{1}{4}$ and $1\frac{3}{10}$
 $\left(\frac{5}{20} \text{ vs } \frac{6}{20}\right)$.
13. $<$
 $-\frac{9}{12}$ vs $-\frac{8}{12}$; $-\frac{3}{4}$ is further left on the number line.
14. $\frac{3}{4}, \frac{4}{5}, \frac{17}{20}, \frac{7}{8}$
Common denominator 40: $\frac{30}{40}, \frac{32}{40}, \frac{34}{40}, \frac{35}{40}$.
15. $\frac{5}{12}$
Mean of $\frac{1}{3} \left(\frac{2}{6}\right)$ and $\frac{1}{2} \left(\frac{3}{6}\right)$ is $\frac{5}{12}$.
16. $-\frac{7}{8}, -\frac{5}{6}, -\frac{3}{4}$
Common denominator 24: $-\frac{21}{24}, -\frac{20}{24}, -\frac{18}{24}$.
17. $\frac{19}{30}$
 $\frac{3}{5} = \frac{18}{30}, \frac{2}{3} = \frac{20}{30}$; $\frac{19}{30}$ lies strictly between them.
18. $\frac{5}{12}, \frac{7}{18}, \frac{11}{30}$
Common denominator 180: $\frac{75}{180}, \frac{70}{180}, \frac{66}{180}$. Order largest to smallest: $\frac{5}{12}, \frac{7}{18}, \frac{11}{30}$.
19. $\frac{5}{12}$ and $\frac{6}{12} \left(\frac{1}{2}\right)$
 $\frac{1}{3} = \frac{4}{12}, \frac{1}{2} = \frac{6}{12}$. The fractions with denominator 12 strictly between are $\frac{5}{12}$ and $\frac{6}{12}$.
20. a, b, c
 $a = \frac{7}{10} = 0.7$, $b = \frac{23}{32} \approx 0.71875$, $c = \frac{3}{4} = 0.75$.
Order: $\frac{7}{10}, \frac{23}{32}, \frac{3}{4}$.