

## FRACTIONS-DECIMALS-PERCENTAGES - PRACTICE QUESTIONS



metatutor

1.

Convert each fraction into a percentage:

$$(a) \frac{1}{2} = 50\%$$

$$(b) \frac{1}{10} = 10\%$$

$$(c) \frac{1}{4} = 25\%$$

$$(d) \frac{1}{5} = 20\%$$

$$(e) \frac{3}{10} = 30\%$$

$$(f) \frac{3}{4} = 75\%$$

$$(g) \frac{2}{5} = 40\%$$

$$(h) \frac{9}{10} = 90\%$$

$$(i) \frac{11}{100} = 11\%$$

$$(j) \frac{83}{100} = 83\%$$

$$(k) \frac{7}{50} \begin{array}{l} \times 2 \\ \hline \end{array} \frac{14}{100} = 14\%$$

$$(l) \frac{4}{25} \begin{array}{l} \times 4 \\ \hline \end{array} \frac{16}{100} = 16\%$$

$$(m) \frac{1}{20} \begin{array}{l} \times 5 \\ \hline \end{array} \frac{5}{100} = 5\%$$

$$(n) \frac{33}{50} \begin{array}{l} \times 2 \\ \hline \end{array} \frac{66}{100} = 66\%$$

$$(o) \frac{13}{20} \begin{array}{l} \times 5 \\ \hline \end{array} \frac{65}{100} = 65\%$$

$$(p) \frac{16}{25} \begin{array}{l} \times 4 \\ \hline \end{array} \frac{64}{100} = 64\%$$

2.

Convert each number into a fraction, fully simplifying each fraction where possible:

$$(a) 50\% = \frac{1}{2}$$

$$(b) 0.7 = \frac{7}{10}$$

$$(c) 0.75 = \frac{75}{100} = \frac{3}{4}$$

$$(d) 31\% = \frac{31}{100}$$

$$(e) 0.03 = \frac{3}{100}$$

$$(f) 0.25 = \frac{1}{4}$$

$$(g) 9\% = \frac{9}{100}$$

$$(h) 10\% = \frac{10}{100} = \frac{1}{10}$$

$$(i) 0.2 = \frac{20}{100} = \frac{1}{5}$$

$$(j) 81\% = \frac{81}{100}$$

$$(k) 44\% = \frac{44}{100} = \frac{22}{50} = \frac{11}{25}$$

$$(l) 0.6 = \frac{60}{100} = \frac{6}{10} = \frac{3}{5}$$

$$(m) 0.65 = \frac{65}{100} = \frac{13}{20}$$

$$(n) 15\% = \frac{15}{100} = \frac{3}{20}$$

$$(o) 8\% = \frac{8}{100} = \frac{2}{25}$$

$$(p) 0.52 = \frac{52}{100} = \frac{13}{25}$$

$$(q) 18\% = \frac{18}{100} = \frac{9}{50}$$

$$(r) 0.32 = \frac{32}{100} = \frac{8}{25}$$

$$(s) 95\% = \frac{95}{100} = \frac{19}{20}$$

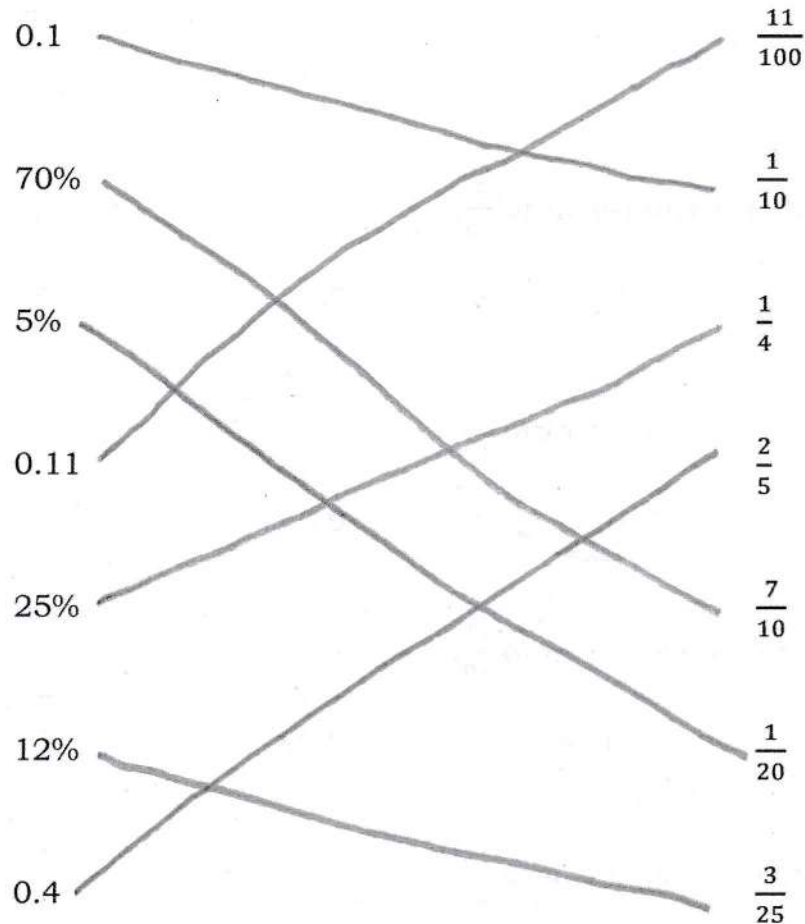
3.

Complete the table. Fully simplify all fractions where possible.

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	25%
$\frac{1}{10}$	0.1	10%
$\frac{1}{2}$	0.5	50%
$\frac{9}{10}$	0.9	90%
$\frac{3}{4}$	0.75	75%
$\frac{1}{5}$	0.2	20%
$\frac{3}{5}$	0.6	60%
$\frac{1}{100}$	0.01	1%
$\frac{4}{5}$	0.8	80%

4.

Match each fraction with an equivalent decimal/percentage:



5.  
Circle the fraction that is equivalent to 30%.

$\frac{1}{3}$

$\frac{3}{10}$

$\frac{3}{5}$

$\frac{3}{100}$

6.  
Circle the fraction that is equivalent to 0.25.

$\frac{4}{5}$

$\frac{1}{4}$

$\frac{4}{10}$

$\frac{3}{4}$

7.  
Circle the fraction that is equivalent to 60%.

$\frac{6}{100}$

$\frac{3}{50}$

$\frac{3}{5}$

$\frac{20}{60}$

8.  
Circle the fraction that is equivalent to 0.15.

$\frac{3}{15}$

$\frac{3}{20}$

$\frac{3}{25}$

$\frac{3}{50}$

9.  
Circle the fraction that is equivalent to 5%.

$\frac{5}{10}$

$\frac{1}{5}$

$\frac{1}{50}$

$\frac{1}{20}$

10.  
Circle the number that is equivalent to  $\frac{7}{10}$ .

0.07

0.7

70%

77%

11.  
Circle the number that is equivalent to  $\frac{3}{100}$ .

30%

0.03

0.33

103%

12.  
Circle the number that is equivalent to  $\frac{11}{20}$ .

11%

0.44

0.22

55%

13.  
Circle the number that is equivalent to  $\frac{12}{25}$ .

12%

25%

0.48

0.6

14.

Circle the fraction that is equivalent to  $\frac{1}{2}$ .

$$\frac{6}{14} = \frac{3}{7}$$

$$\frac{8}{16} = \frac{1}{2}$$

$$\frac{10}{18} = \frac{5}{9}$$

$$\frac{12}{20} = \frac{3}{5}$$

15.

Circle the fraction that is equivalent to  $\frac{1}{3}$ .

$$\frac{3}{10}$$

$$\frac{9}{20}$$

$$\frac{10}{30} = \frac{1}{3}$$

$$\frac{12}{32} = \frac{3}{8}$$

16.

Circle the fraction that is equivalent to  $\frac{2}{5}$ .

$$\frac{6}{10} = \frac{3}{5}$$

$$\frac{9}{15} = \frac{3}{5}$$

$$\frac{12}{20} = \frac{3}{5}$$

$$\frac{10}{25} = \frac{2}{5}$$

17.

Circle the fraction that is equivalent to  $\frac{3}{8}$ .

$$\frac{8}{12} = \frac{2}{3}$$

$$\frac{6}{16} = \frac{3}{8}$$

$$\frac{10}{24} = \frac{5}{12}$$

$$\frac{15}{40} = \frac{3}{8}$$

18.

Circle the fractions that are equivalent to  $\frac{3}{4}$ .

$$\frac{12}{16} = \frac{3}{4}$$

$$\frac{7}{8}$$

$$\frac{30}{40} = \frac{3}{4}$$

$$\frac{28}{32} = \frac{7}{8}$$

19.

Circle the fractions that are equivalent to  $\frac{1}{6}$ .

$$\frac{8}{18} = \frac{4}{9}$$

$$\frac{4}{24} = \frac{1}{6}$$

$$\frac{6}{30} = \frac{1}{5}$$

$$\frac{7}{42} = \frac{1}{6}$$

20.

Put these fractions into order, smallest to largest.

$$\frac{2}{5} = \frac{8}{20}$$

$$\frac{1}{4} = \frac{5}{20}$$

$$\frac{3}{10} = \frac{6}{20}$$

$$\frac{7}{20}$$

$$\frac{1}{4}, \frac{3}{10}, \frac{7}{20}, \frac{2}{5}$$

21.

Put these fractions into order, smallest to largest.

$$\frac{1}{2} = \frac{6}{12}$$

$$\frac{7}{12}$$

$$\frac{5}{6} = \frac{10}{12}$$

$$\frac{3}{4} = \frac{9}{12}$$

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

22.

Put these fractions into order, smallest to largest.

$$\frac{17}{30}$$

$$\frac{1}{2} = \frac{15}{30}$$

$$\frac{3}{5} = \frac{18}{30}$$

$$\frac{8}{15} = \frac{16}{30}$$

$$\frac{1}{2}, \frac{8}{15}, \frac{17}{30}, \frac{3}{5}$$

23.

Put these fractions into order, smallest to largest.

$$\frac{9}{10} = \frac{90}{100}$$

$$\frac{21}{25} = \frac{84}{100}$$

$$\frac{89}{100}$$

$$\frac{17}{20} = \frac{85}{100}$$

$$\frac{21}{25}, \frac{17}{20}, \frac{89}{100}, \frac{9}{10}$$

24.

Put these fractions into order, smallest to largest.

$$\frac{1}{3} = \frac{8}{24}$$

$$\frac{1}{4} = \frac{6}{24}$$

$$\frac{3}{8} = \frac{9}{24}$$

$$\frac{5}{12} = \frac{10}{24}$$

$$\frac{1}{4}, \frac{1}{3}, \frac{3}{8}, \frac{5}{12}$$

25.

Put these fractions into order, smallest to largest.

$$\frac{7}{8} = \frac{35}{40}$$

$$\frac{17}{20} = \frac{34}{40}$$

$$\frac{3}{4} = \frac{30}{40}$$

$$\frac{4}{5} = \frac{32}{40}$$

$$\frac{3}{4}, \frac{4}{5}, \frac{17}{20}, \frac{7}{8}$$



20.

Put these fractions into order, smallest to largest.

$$\frac{2}{5} = \frac{8}{20}$$

$$\frac{1}{4} = \frac{5}{20}$$

$$\frac{3}{10} = \frac{6}{20}$$

$$\frac{7}{20}$$

$$\frac{1}{4}, \frac{3}{10}, \frac{7}{20}, \frac{2}{5}$$

21.

Put these fractions into order, smallest to largest.

$$\frac{1}{2} = \frac{6}{12}$$

$$\frac{7}{12}$$

$$\frac{5}{6} = \frac{10}{12}$$

$$\frac{3}{4} = \frac{9}{12}$$

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

22.

Put these fractions into order, smallest to largest.

$$\frac{17}{30}$$

$$\frac{1}{2} = \frac{15}{30}$$

$$\frac{3}{5} = \frac{18}{30}$$

$$\frac{8}{15} = \frac{16}{30}$$

$$\frac{1}{2}, \frac{8}{15}, \frac{17}{30}, \frac{3}{5}$$

23.

Put these fractions into order, smallest to largest.

$$\frac{9}{10} = \frac{90}{100}$$

$$\frac{21}{25} = \frac{84}{100}$$

$$\frac{89}{100}$$

$$\frac{17}{20} = \frac{85}{100}$$

$$\frac{21}{25}, \frac{17}{20}, \frac{89}{100}, \frac{9}{10}$$

24.

Put these fractions into order, smallest to largest.

$$\frac{1}{3} = \frac{8}{24}$$

$$\frac{1}{4} = \frac{6}{24}$$

$$\frac{3}{8} = \frac{9}{24}$$

$$\frac{5}{12} = \frac{10}{24}$$

$$\frac{1}{4}, \frac{1}{3}, \frac{3}{8}, \frac{5}{12}$$

25.

Put these fractions into order, smallest to largest.

$$\frac{7}{8} = \frac{35}{40}$$

$$\frac{17}{20} = \frac{34}{40}$$

$$\frac{3}{4} = \frac{30}{40}$$

$$\frac{4}{5} = \frac{32}{40}$$

$$\frac{3}{4}, \frac{4}{5}, \frac{17}{20}, \frac{7}{8}$$

26.

Put these fractions into order, smallest to largest.

$$\frac{2}{3} = \frac{24}{36}$$

$$\frac{3}{4} = \frac{27}{36}$$

$$\frac{7}{12} = \frac{21}{36}$$

$$\frac{5}{9} = \frac{20}{36}$$

$$\frac{5}{9}, \frac{7}{12}, \frac{2}{3}, \frac{3}{4}$$

27.

Put these fractions into order, smallest to largest.

$$\frac{13}{50} = \frac{26}{100}$$

$$\frac{1}{5} = \frac{20}{100}$$

$$\frac{7}{25} = \frac{28}{100}$$

$$\frac{3}{20} = \frac{15}{100}$$

$$\frac{3}{20}, \frac{1}{5}, \frac{13}{50}, \frac{7}{25}$$

28.

Put these fractions into order, smallest to largest.

$$\frac{4}{5} = \frac{48}{60}$$

$$\frac{7}{10} = \frac{42}{60}$$

$$\frac{17}{20} = \frac{51}{60}$$

$$\frac{11}{15} = \frac{44}{60}$$

$$\frac{7}{10}, \frac{11}{15}, \frac{4}{5}, \frac{17}{20}$$

29.

Put these fractions into order, smallest to largest.

$$\frac{3}{14} = \frac{6}{28}$$

$$\frac{1}{7} = \frac{4}{28}$$

$$\frac{1}{4} = \frac{7}{28}$$

$$\frac{5}{28}$$

$$\frac{1}{7}, \frac{5}{28}, \frac{3}{14}, \frac{1}{4}$$

30.

Put these numbers into order, smallest to largest.

$$\frac{3}{10} = \frac{30}{100}$$

$$32\% = \frac{32}{100}$$

$$0.35 = \frac{35}{100}$$

$$\frac{1}{4} = \frac{25}{100}$$

$$\frac{1}{4}, \frac{3}{10}, 32\%, 0.35$$

31.

Put these numbers into order, smallest to largest.

$$90\% = \frac{90}{100}$$

$$\frac{4}{5} = \frac{80}{100}$$

$$\frac{3}{4} = \frac{75}{100}$$

$$0.85 = \frac{85}{100}$$

$$\frac{3}{4}, \frac{4}{5}, 0.85, 90\%$$



32.

Put these numbers into order, smallest to largest.

$$\frac{3}{20} = \frac{15}{100}$$

$$13\% = \frac{13}{100}$$

$$0.09 = \frac{9}{100}$$

$$\frac{2}{25} = \frac{8}{100}$$

$$\frac{2}{25}, 0.09, 13\%, \frac{3}{20}$$

33.

Put these numbers into order, smallest to largest.

$$46\% = \frac{46}{100}$$

$$\frac{90}{200} = \frac{45}{100}$$

$$0.41 = \frac{41}{100}$$

$$\frac{11}{25} = \frac{44}{100}$$

$$0.41, \frac{11}{25}, \frac{90}{200}, 46\%$$

34.

Put these numbers into order, smallest to largest.

$$27\% = \frac{27}{100}$$

$$0.23 = \frac{23}{100}$$

$$\frac{8}{32} = \frac{1}{4} = \frac{25}{100}$$

$$\frac{12}{50} = \frac{24}{100}$$

$$0.23, \frac{12}{50}, \frac{8}{32}, 27\%$$

35.

Put these numbers into order, smallest to largest.

$$\frac{13}{20} = \frac{65}{100}$$

$$0.7 = \frac{70}{100}$$

$$\frac{3}{5} = \frac{60}{100}$$

$$67\% = \frac{67}{100}$$

$$\frac{3}{5}, \frac{13}{20}, 67\%, 0.7$$

36.

Put these numbers into order, smallest to largest.

$$12\% = \frac{12}{100}$$

$$\frac{6}{40} = \frac{3}{20} = \frac{15}{100}$$

$$\frac{9}{36} = \frac{1}{4} = \frac{25}{100}$$

$$0.21 = \frac{21}{100}$$

$$12\%, \frac{6}{40}, 0.21, \frac{9}{36}$$

37.

Angus and Bruce both bought the same pizza.

Angus cut his pizza into 8 equal sections and ate 5 of them.

Bruce cut his pizza into 12 equal sections and ate 7 of them.

Who ate the most pizza?

$$\text{Angus} = \frac{5}{8} = \frac{15}{24}$$

$$\text{Bruce} = \frac{7}{12} = \frac{14}{24}$$

Angus

38.

Caitlyn and Dennis both took a maths test.

Caitlyn got 36% of the questions correct.

Dennis got  $\frac{7}{20}$  of the questions correct.

Who did better in the test?

$$\text{Caitlyn} = 36\%$$

$$\text{Dennis} = \frac{7}{20} = \frac{35}{100} = 35\%$$

Caitlyn

39.

Eddie bought a big bag of sweets.

He gave  $\frac{3}{10}$  of them to his mum.

He gave 33% of them to his dad.

He kept the rest for himself.

Who received more sweets - Eddie, his mum or his dad?

$$\frac{3}{10} = 30\%$$

$$100\% - 63\% = 37\%$$

$$30\% + 33\% = 63\%$$

Eddie

40.

At Forder Hospital, 12% of the staff work part-time.

At Halle Hospital, 16 of the 160 staff work part-time.

Which hospital has the higher proportion of part-time staff?

$$\text{Forder} = \frac{12}{100}$$

$$\text{Halle} = \frac{16}{160} = \frac{1}{10} = \frac{10}{100}$$

Forder Hospital

41.

Francesca, Gerry and Henry all played in a chess tournament.  
Francesca played 40 games and won 18 of them.  
Gerry played 60 games and won 24 of them.  
Henry won 48% of his games.

Who had the highest win percentage – Francesca, Gerry or Henry?

$$\text{Francesca} = \frac{18}{40} = \frac{9}{20} = \frac{45}{100} = 45\%$$

$$\text{Gerry} = \frac{24}{60} = \frac{4}{10} = \frac{40}{100} = 40\%$$

$$\text{Henry} = 48\%$$

Henry

42.

A group of people work in an office.

$\frac{3}{25}$  of them walk to work.

18% of them cycle to work.

A quarter of them catch the train to work.

The rest drive to work.

What percentage of the group drive to work?

$$\frac{3}{25} = \frac{12}{100} = 12\%$$

$$\frac{1}{4} = \frac{25}{100} = 25\%$$

$$\begin{array}{r} 12 \\ 18 \\ +25 \\ \hline 55 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ - 55 \\ \hline 45 \\ \hline \end{array}$$

45%

43.

Ilia and Jerome each have a bag of marbles containing green and blue marbles.

32 of Ilia's 80 marbles are green.

63% of Jerome's marbles are blue.

Whose bag has the highest proportion of blue marbles?

$$\text{Ilia} = \frac{32}{80} = \frac{4}{10} = \frac{40}{100}$$

$$\text{Jerome} = 37\% = \frac{37}{100}$$

Ilia