

03 - Fractions

Numerical Reasoning Test Preparation Question Pack

This document is part of a set of resources designed to help people prepare for numerical reasoning tests. However, they could also be used by anyone who wants to improve their maths skills, especially how to use a calculator to work with fractions, percentages, ratios and averages.

There are six topic areas covered in these documents (Calculator Skills; Numbers; Fractions; Percentages; Ratio and Proportion; and Averages). For each topic area there are two documents: one is a set of notes and worked examples, and the other is a question pack.

Each set of notes and each question pack is divided up into a number of skills. For each skill, read through the notes and examples and then try the questions for that skill from the question pack. I advise that you work through the skills in order, only moving onto the next one once you have mastered the current one (this is called *mastery learning*).

Questions

You may use a calculator.

The answers can be found at the end of this document.

Enter a given fraction into a calculator.

- 1) Enter the fraction $\frac{13}{3}$ into your calculator.
- 2) Enter the fraction $\frac{4}{9}$ into your calculator.
- 3) Enter the fraction $\frac{67}{91}$ into your calculator.
- 4) Enter the fraction $\frac{7}{15}$ into your calculator.
- 5) Enter the fraction $\frac{6}{35}$ into your calculator.

Find the simplest form of a given fraction.

- 1) What is the simplest form of the fraction $\frac{85}{68}$?
- 2) What is the simplest form of the fraction $\frac{56}{88}$?
- 3) Express the fraction $\frac{135}{225}$ in its simplest form.
- 4) Express the fraction $\frac{54}{243}$ in its simplest form.
- 5) What is the simplest form of the fraction $\frac{-84}{-36}$?

Add, subtract, multiply or divide two given fractions.

- 1) Divide $\frac{13}{29}$ by $\frac{6}{7}$.
- 2) What is $\frac{8}{13} - \frac{14}{5}$?
- 3) What is $\frac{16}{3}$ multiplied by $\frac{4}{5}$?
- 4) What is $\frac{522}{145}$ divided by $\frac{3}{5}$?
- 5) What is $\frac{1}{9} + \frac{1}{10}$?

Convert between fractions and decimals.

- 1) Convert 0.84375 to a fraction.
- 2) What is $\frac{6}{11}$ as a decimal?
- 3) Convert $\frac{3}{8}$ to a decimal.
- 4) What is 3.25 as a fraction?
- 5) What is $\frac{24}{5}$ as a decimal?

Convert between top heavy fractions and mixed numbers.

- 1) Convert $8\frac{7}{15}$ to a top heavy fraction.
- 2) What is $\frac{19}{3}$ as a mixed number?

- 3) Write $\frac{35}{4}$ as a mixed number.
- 4) What is $2\frac{1}{2}$ as a top heavy fraction?
- 5) Write $62\frac{3}{4}$ as a top heavy fraction.

Find a given fraction of a given amount.

- 1) What is $\frac{16}{35}$ of 140?
- 2) What is $\frac{8}{3}$ of 15?
- 3) What is $\frac{3}{4}$ of 45,612?
- 4) What is $\frac{5}{9}$ of -72?
- 5) What is $\frac{14}{25}$ of 350?

Calculate what fraction a given amount is of another given amount.

- 1) What is 150 as a fraction of 500?
- 2) What fraction of 77 is 56?
- 3) What is -138 as a fraction of -322?
- 4) What is 424,815 as a fraction of 254,889?
- 5) What fraction of 65 is 15?

Given an amount and what fraction it is of another amount, calculate the other amount.

- 1) 78.125 is $\frac{5}{8}$ of another number. What is that number?
- 2) 7810 is $\frac{2}{9}$ of another number. What is that number?
- 3) 52 is $\frac{4}{7}$ of another number. What is that number?
- 4) -32 is $\frac{4}{11}$ of another number. What is that number?

- 5) 6.4 is $\frac{32}{5}$ of another number. What is that number?

Increase or decrease a given amount by a given fraction of itself.

- 1) The number 924 is increased by $\frac{5}{6}$ of itself. What number does this give?
- 2) The number 26 is decreased by $\frac{1}{8}$ of itself. What number does this give?
- 3) The number 47,826 is increased by $\frac{3}{10}$ of itself. What number does this give?
- 4) The number 819 is decreased by $\frac{5}{9}$ of itself. What number does this give?
- 5) The number 25 is increased by $\frac{15}{4}$ of itself. What number does this give?

Given the fraction of itself that the initial amount was increased or decreased by, and the final amount, calculate the initial amount.

- 1) A number was decreased by $\frac{5}{13}$ of itself to give 96. What was the original number?
- 2) A number was increased by $\frac{7}{9}$ of itself to give 1136. What was the original number?
- 3) A number was decreased by $\frac{1}{8}$ of itself to give 693. What was the original number?
- 4) A number was increased by $\frac{2}{3}$ of itself to give 85. What was the original number?
- 5) A number was increased by $\frac{12}{7}$ of itself to give 16,074. What was the original number?

Answers

Enter a given fraction into a calculator.

1. $\frac{13}{3}$
2. $\frac{4}{9}$
3. $\frac{67}{91}$
4. $\frac{7}{15}$

5. $\frac{6}{35}$

Find the simplest form of a given fraction.

1. $\frac{5}{4}$

2. $\frac{7}{11}$

3. $\frac{3}{5}$

4. $\frac{2}{9}$

5. $\frac{7}{3}$

Add, subtract, multiply or divide two given fractions.

1. $\frac{91}{174}$

2. $\frac{-142}{65}$

3. $\frac{64}{15}$

4. 6

5. $\frac{19}{90}$

Convert between fractions and decimals.

1. $\frac{27}{32}$

2. 0.54545454...

3. 0.375

4. $\frac{13}{4}$

5. 4.8

Convert between top heavy fractions and mixed numbers.

1. $\frac{127}{15}$

2. $6\frac{1}{3}$

3. $8\frac{3}{4}$

4. $\frac{5}{2}$

5. $\frac{251}{4}$

Find a given fraction of a given amount.

1. 64

2. 40

3. 34,209

4. -40

5. 196

Calculate what fraction a given amount is of another given amount.

1. $\frac{3}{10}$

2. $\frac{8}{11}$

3. $\frac{3}{7}$

4. $\frac{5}{3}$

5. $\frac{3}{13}$

Given an amount and what fraction it is of another amount, calculate the other amount.

1. 125

2. 35,145

3. 91

4. -88

5. 1

Increase or decrease a given amount by a given fraction of itself.

1. 1694

2. 22.75

3. 62,173.8

4. 364

5. 118.75

Given the fraction of itself that the initial amount was increased or decreased by, and the final amount, calculate the initial amount.

1. 156

2. 639

3. 792

4. 51

5. 5922