

# Questions: Introduction to fractions

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## Summary

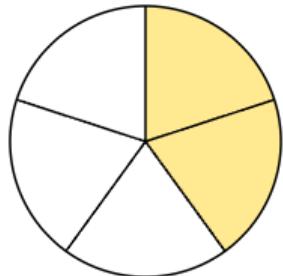
A selection of questions for the study guide on the introduction to fractions.

*Before attempting these questions, it is highly recommended that you read [Guide: Introduction to numerical fractions](#).*

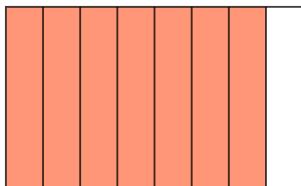
## Q1

For each figure, write the fraction that represents the shaded area.

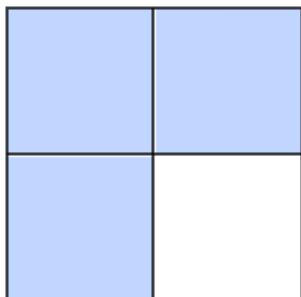
1.1.



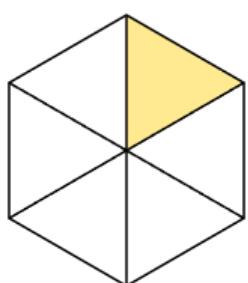
1.2.

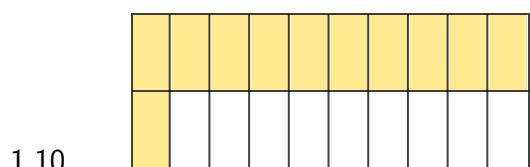
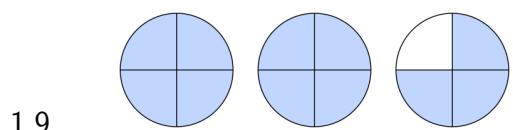
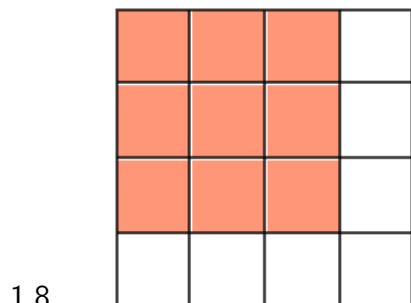
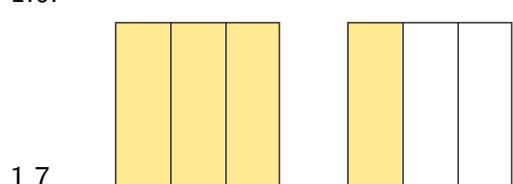
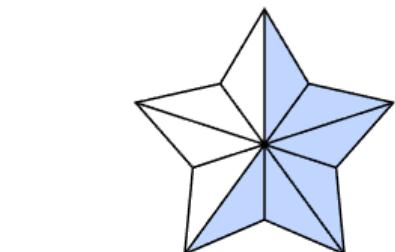
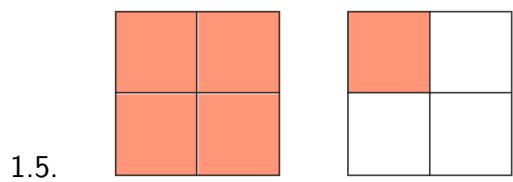


1.3.



1.4.





## Q2

Convert each mixed number into an improper fraction.

2.1.  $1\frac{1}{2}$

2.2.  $-2\frac{2}{3}$

2.3.  $3\frac{1}{4}$

2.4.  $-5\frac{2}{5}$

$$2.5. \quad 4\frac{3}{7}$$

$$2.6. \quad 6\frac{1}{6}$$

$$2.7. \quad -8\frac{3}{5}$$

$$2.8. \quad 10\frac{2}{9}$$

$$2.9. \quad -7\frac{5}{11}$$

$$2.10. \quad 12\frac{3}{4}$$

### Q3

Convert each improper fraction into a mixed number.

$$3.1. \quad \frac{5}{2}$$

$$3.2. \quad -\frac{7}{4}$$

$$3.3. \quad \frac{10}{3}$$

$$3.4. \quad -\frac{11}{7}$$

$$3.5. \quad \frac{12}{6}$$

$$3.6. \quad -\frac{25}{6}$$

$$3.7. \quad \frac{31}{9}$$

$$3.8. \quad \frac{50}{11}$$

$$3.9. \quad \frac{64}{-8}$$

$$3.10. \quad -\frac{100}{13}$$

### Q4

Find the missing value ? that makes the two fractions equivalent.

$$4.1. \quad \frac{1}{4} = \frac{?}{12}$$

$$4.2. \quad \frac{2}{3} = \frac{6}{?}$$

$$4.3. \quad \frac{3}{5} = \frac{?}{25}$$

$$4.4. \quad \frac{5}{8} = \frac{?}{16}$$

$$4.5. \quad \frac{3}{4} = \frac{?}{-20}$$

$$4.6. \quad -\frac{1}{6} = \frac{?}{24}$$

$$4.7. \quad \frac{5}{8} = \frac{20}{?}$$

$$4.8. \quad \frac{4}{3} = \frac{?}{18}$$

$$4.9. \quad -\frac{1}{3} = \frac{?}{27}$$

$$4.10. \quad \frac{7}{10} = \frac{70}{?}$$

$$4.11. \quad -\frac{4}{5} = \frac{?}{30}$$

$$4.12. \quad \frac{11}{12} = \frac{?}{60}$$

$$4.13. \quad \frac{3}{-7} = \frac{?}{21}$$

$$4.14. \quad \frac{8}{9} = \frac{32}{?}$$

$$4.15. \quad \frac{6}{7} = -\frac{?}{-49}$$

## Q5

Write each fraction in its simplest form.

$$5.1. \quad \frac{4}{8}$$

$$5.2. \quad \frac{3}{9}$$

$$5.3. \quad \frac{6}{10}$$

$$5.4. \quad \frac{9}{12}$$

$$5.5. \quad \frac{15}{25}$$

- 5.6.  $\frac{7}{21}$   
5.7.  $\frac{20}{30}$   
5.8.  $\frac{35}{49}$   
5.9.  $\frac{48}{72}$   
5.10.  $\frac{100}{120}$

## Q6

Convert each fraction into its alternative form and fully simplify the result.

- If an improper fraction is given, convert it into a mixed number.
- If a mixed number is given, convert it into an improper fraction.

- 6.1.  $\frac{6}{4}$   
6.2.  $2\frac{2}{8}$   
6.3.  $\frac{12}{10}$   
6.4.  $-\frac{15}{9}$   
6.5.  $3\frac{4}{6}$   
6.6.  $-1\frac{6}{8}$   
6.7.  $\frac{20}{12}$   
6.8.  $\frac{30}{25}$   
6.9.  $5\frac{10}{15}$   
6.10.  $-\frac{45}{20}$   
6.11.  $4\frac{8}{10}$   
6.12.  $\frac{50}{30}$   
6.13.  $\frac{75}{-50}$

$$6.14. \quad 6\frac{12}{16}$$

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$$6.15. \quad -2\frac{14}{21}$$

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After attempting the questions above, please click [this link](#) to find the answers.

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## Version history and licensing

v1.0: initial version created 12/25 by Donald Campbell as part of a University of St Andrews VIP project.

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