Questions: Introduction to fractions

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Summary

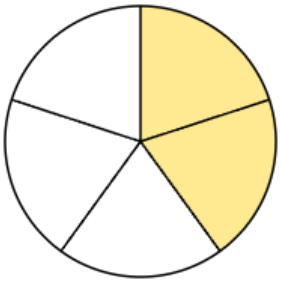
A selection of questions for the study guide on the introduction to fractions.

Before attempting these questions, it is highly recommended that you read Guide: Introduction to numerical fractions. You may also find Calculator: Highest common factor, lowest common multiple useful.

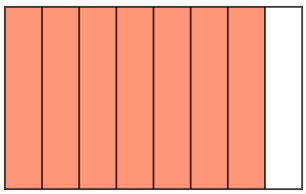
Q1

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

1.1.



1.2.



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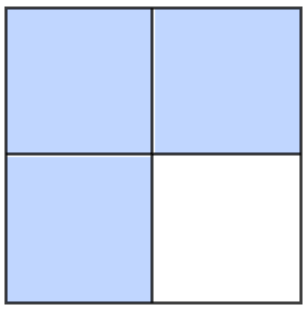

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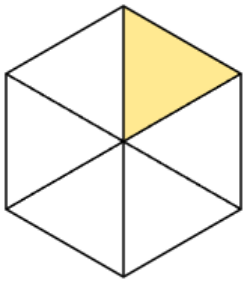
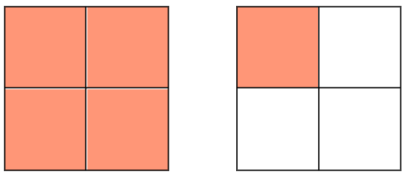
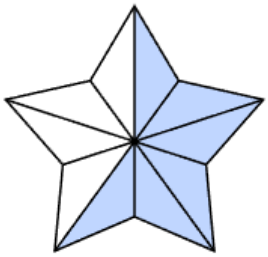
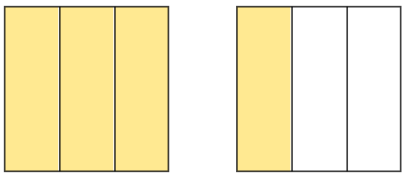
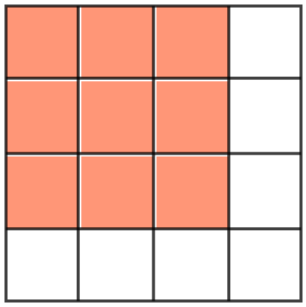
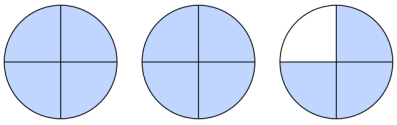


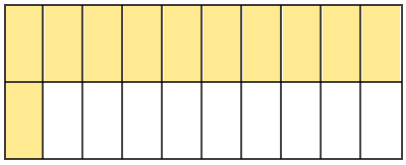
1.5. 

1.6. 

1.7. 

1.8. 

1.9. 

1.10. 

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

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

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

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

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

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

Q3

Convert each improper fraction into a mixed number.

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

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

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

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

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

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

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

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

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

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

Q4

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Q5

Write each fraction in its simplest form.

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

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

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

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

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

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

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

After attempting the questions above, please click this link to find the answers.

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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