FRACTIONS · AGES 5–7

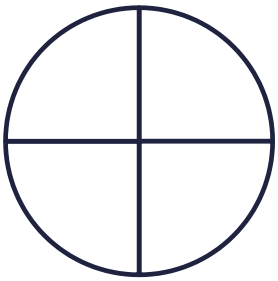
Colour the fraction

Acorn & Ink

Each shape is cut into equal parts. Colour the fraction shown.

Name _____ Date _____ Score _____ / 9

Colour $\frac{1}{4}$



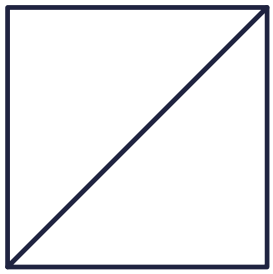
one quarter

Colour $\frac{3}{4}$



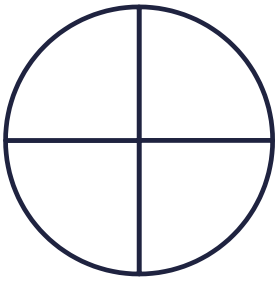
three quarters

Colour $\frac{1}{2}$



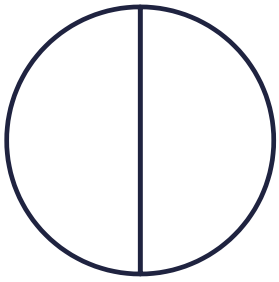
one half

Colour $\frac{3}{4}$



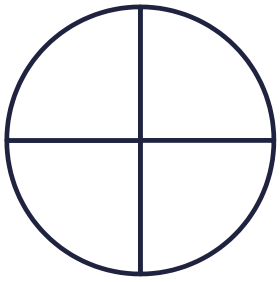
three quarters

Colour $\frac{1}{2}$



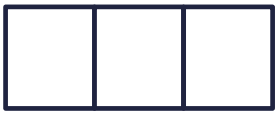
one half

Colour $\frac{1}{4}$



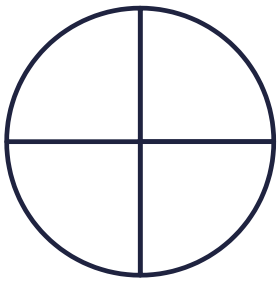
one quarter

Colour $\frac{1}{3}$



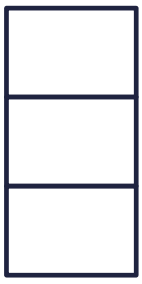
one third

Colour $\frac{2}{4}$



$\frac{2}{4}$ is the same as $\frac{1}{2}$

Colour $\frac{1}{3}$



one third

FRACTIONS · AGES 5–7

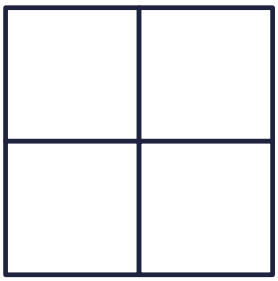
Colour the fraction

Acorn & Ink

Each shape is cut into equal parts. Colour the fraction shown.

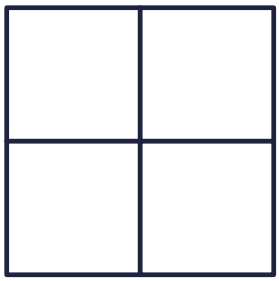
Name _____ Date _____ Score _____ / 9

Colour $\frac{1}{4}$



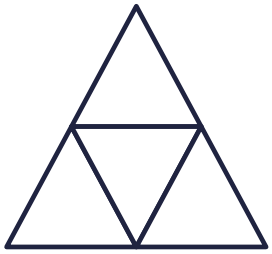
one quarter

Colour $\frac{1}{4}$



one quarter

Colour $\frac{3}{4}$



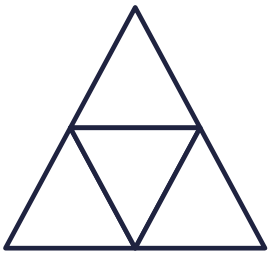
three quarters

Colour $\frac{1}{3}$



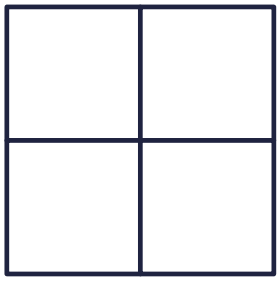
one third

Colour $\frac{2}{4}$



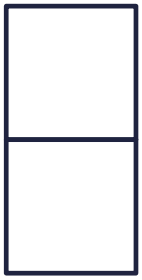
$\frac{2}{4}$ is the same as $\frac{1}{2}$

Colour $\frac{3}{4}$



three quarters

Colour $\frac{1}{2}$



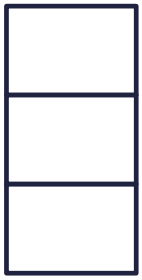
one half

Colour $\frac{1}{2}$



one half

Colour $\frac{1}{3}$



one third

FRACTIONS · AGES 5–7

Acorn & Ink

Fractions of a group

Share the shapes into equal groups. Colour the right number of groups, then write how many.

Name _____ Date _____ Score _____ / 10

1. $\frac{1}{4}$ of 20 A quarter of 20  = _____
2. $\frac{1}{2}$ of 20 Half of 20  = _____
3. $\frac{1}{2}$ of 6 Half of 6  = _____
4. $\frac{3}{4}$ of 20 Three quarters of 20  = _____
5. $\frac{1}{4}$ of 16 A quarter of 16  = _____
6. $\frac{1}{2}$ of 18 Half of 18  = _____
7. $\frac{2}{4}$ of 20 Two quarters of 20  = _____
8. $\frac{3}{4}$ of 8 Three quarters of 8  = _____
9. $\frac{1}{3}$ of 6 A third of 6  = _____
10. $\frac{1}{3}$ of 15 A third of 15  = _____

Share the shapes into equal groups: 2 groups for halves, 3 for thirds, 4 for quarters.

COLOUR BY SUM · HALVES AND QUARTERS

What's the mystery picture?

Acorn & Ink

Work out each sum. Find the answer in the key and colour the square that colour.

3 red	4 light blue	5 yellow	6 orange
8 dark blue	10 leave white		

¼ of 16	½ of 10	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	¼ of 16	½ of 8	¼ of 16	½ of 8
½ of 8	½ of 8	¼ of 16	¼ of 16	¼ of 16	½ of 8	½ of 6	¼ of 12	¼ of 16	¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8
¼ of 16	½ of 8	½ of 8	½ of 8	½ of 8	¼ of 12	½ of 6	¼ of 12	½ of 6	½ of 8	¼ of 16	¼ of 20	½ of 8	½ of 8
¼ of 16	¼ of 16	½ of 8	¼ of 16	½ of 6	½ of 6	½ of 6	½ of 6	¼ of 12	¼ of 12	¼ of 16	½ of 8	½ of 8	¼ of 16
½ of 8	½ of 8	½ of 8	¼ of 16	½ of 20	½ of 20	¼ of 40	½ of 20	½ of 20	¼ of 40	¼ of 16	½ of 8	½ of 8	½ of 8
¼ of 16	½ of 8	½ of 8	½ of 8	¼ of 40	½ of 20	½ of 16	¼ of 32	½ of 20	½ of 20	¼ of 16	½ of 8	½ of 8	¼ of 16
¼ of 16	¼ of 16	¼ of 16	¼ of 16	¼ of 40	¼ of 32	¼ of 32	½ of 16	½ of 16	¼ of 40	½ of 8	½ of 8	½ of 8	½ of 8
½ of 8	¼ of 20	¼ of 16	½ of 8	¼ of 40	½ of 16	¼ of 32	¼ of 32	½ of 16	¼ of 40	½ of 8	¼ of 16	½ of 8	½ of 8
½ of 8	½ of 8	¼ of 16	½ of 8	½ of 20	½ of 20	¼ of 32	¼ of 32	½ of 20	¼ of 40	½ of 8	½ of 8	¼ of 16	¼ of 16
½ of 8	½ of 8	¼ of 16	½ of 8	½ of 20	½ of 20	½ of 20	½ of 20	¼ of 40	½ of 20	½ of 8	½ of 8	¼ of 20	½ of 8
½ of 8	½ of 8	¼ of 16	¼ of 12	¼ of 40	¼ of 40	¼ of 40	¼ of 40	¼ of 40	¼ of 40	½ of 6	½ of 8	½ of 8	½ of 8
½ of 8	¼ of 16	½ of 6	½ of 6	½ of 20	¼ of 40	½ of 20	¼ of 40	¼ of 40	½ of 20	¼ of 12	¼ of 12	¼ of 16	½ of 8
¼ of 16	¼ of 16	½ of 6	½ of 6	¼ of 16	½ of 12	¼ of 20	½ of 10	½ of 12	½ of 8	½ of 6	¼ of 12	¼ of 16	½ of 8
½ of 8	½ of 8	½ of 8	¼ of 16	½ of 8	¼ of 24	½ of 10	½ of 10	½ of 12	½ of 8	¼ of 16	¼ of 16	¼ of 16	¼ of 16
¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8	¼ of 16	¼ of 24	¼ of 24	¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8	½ of 8
¼ of 16	¼ of 16	½ of 10	½ of 8	¼ of 16	½ of 8	¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8	½ of 8	¼ of 20	¼ of 16

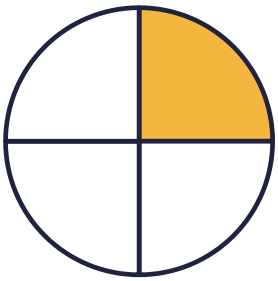
Colour the fraction

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

Colour $\frac{1}{4}$



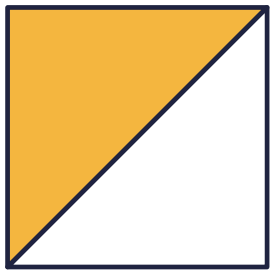
one quarter

Colour $\frac{3}{4}$



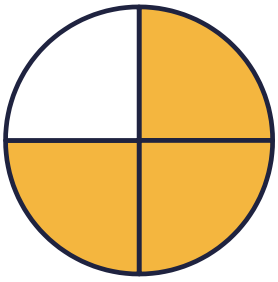
three quarters

Colour $\frac{1}{2}$



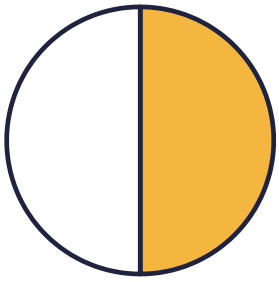
one half

Colour $\frac{3}{4}$



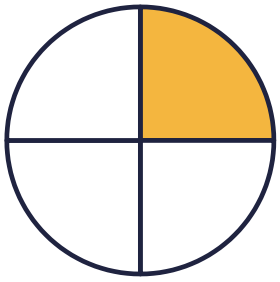
three quarters

Colour $\frac{1}{2}$



one half

Colour $\frac{1}{4}$



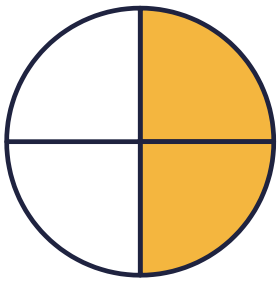
one quarter

Colour $\frac{1}{3}$



one third

Colour $\frac{2}{4}$



$\frac{2}{4}$ is the same as $\frac{1}{2}$

Colour $\frac{1}{3}$



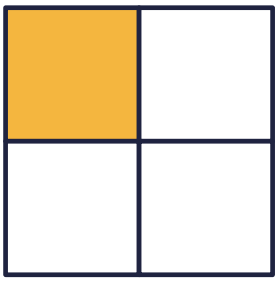
one third

Colour the fraction

Answers are shown in red.

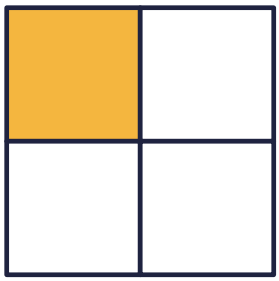
Name _____ Date _____

Colour $\frac{1}{4}$



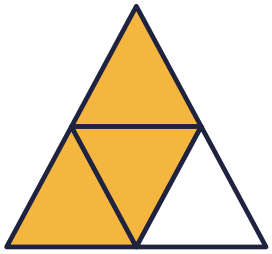
one quarter

Colour $\frac{1}{4}$



one quarter

Colour $\frac{3}{4}$



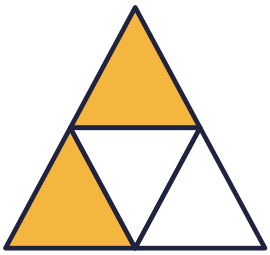
three quarters

Colour $\frac{1}{3}$



one third

Colour $\frac{2}{4}$



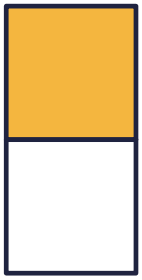
$\frac{2}{4}$ is the same as $\frac{1}{2}$

Colour $\frac{3}{4}$



three quarters

Colour $\frac{1}{2}$



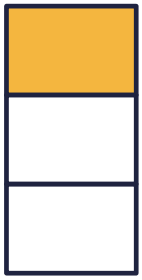
one half

Colour $\frac{1}{2}$



one half

Colour $\frac{1}{3}$



one third

Fractions of a group

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

$\frac{1}{4}$ of 20 A quarter of 20  = **5**

$\frac{1}{2}$ of 20 Half of 20  = **10**

$\frac{1}{2}$ of 6 Half of 6  = **3**

$\frac{3}{4}$ of 20 Three quarters of 20  = **15**

$\frac{1}{4}$ of 16 A quarter of 16  = **4**

$\frac{1}{2}$ of 18 Half of 18  = **9**

$\frac{2}{4}$ of 20 Two quarters of 20  = **10**

$\frac{3}{4}$ of 8 Three quarters of 8  = **6**

$\frac{1}{3}$ of 6 A third of 6  = **2**

$\frac{1}{3}$ of 15 A third of 15  = **5**

Share the shapes into equal groups: 2 groups for halves, 3 for thirds, 4 for quarters.

Acorn & Ink

It's a rocket!

Here's how the finished picture looks.

3 red 4 light blue 5 yellow 6 orange

8 dark blue 10 leave white

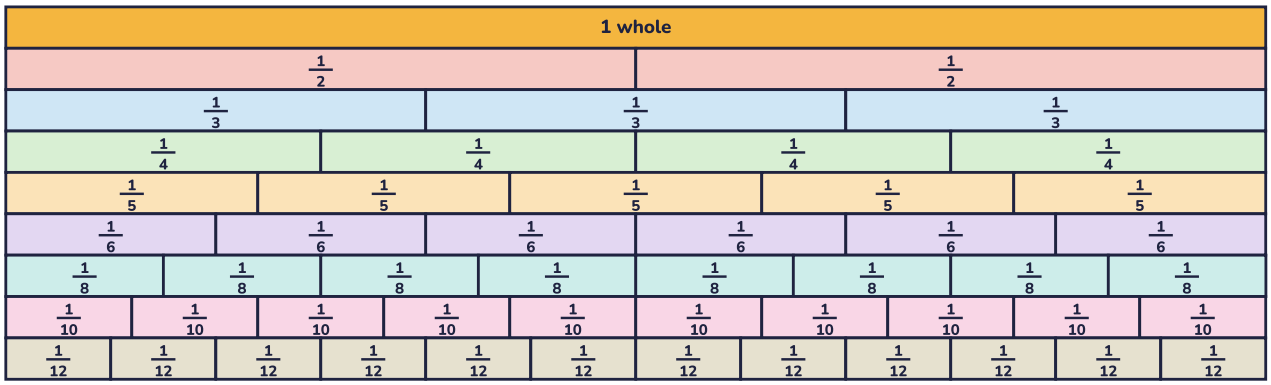
¼ of 16	½ of 10	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	½ of 8	¼ of 16	½ of 8	¼ of 16	½ of 8
½ of 8	½ of 8	¼ of 16	¼ of 16	¼ of 16	½ of 8	½ of 6	¼ of 12	¼ of 16	¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8
¼ of 16	½ of 8	½ of 8	½ of 8	½ of 8	¼ of 12	½ of 6	¼ of 12	½ of 6	½ of 8	¼ of 16	¼ of 20	½ of 8	½ of 8
¼ of 16	¼ of 16	½ of 8	¼ of 16	½ of 6	½ of 6	½ of 6	½ of 6	¼ of 12	¼ of 12	¼ of 16	½ of 8	½ of 8	¼ of 16
½ of 8	½ of 8	½ of 8	¼ of 16	½ of 20	½ of 20	¼ of 40	½ of 20	½ of 20	¼ of 40	¼ of 16	½ of 8	½ of 8	½ of 8
¼ of 16	½ of 8	½ of 8	½ of 8	¼ of 40	½ of 20	½ of 16	¼ of 32	½ of 20	½ of 20	¼ of 16	½ of 8	½ of 8	¼ of 16
¼ of 16	¼ of 16	¼ of 16	¼ of 16	¼ of 40	¼ of 32	¼ of 32	½ of 16	½ of 16	¼ of 40	½ of 8	½ of 8	½ of 8	½ of 8
½ of 8	¼ of 20	¼ of 16	½ of 8	¼ of 40	½ of 16	¼ of 32	¼ of 32	½ of 16	¼ of 40	½ of 8	¼ of 16	½ of 8	½ of 8
½ of 8	½ of 8	¼ of 16	½ of 8	½ of 20	½ of 20	¼ of 32	¼ of 32	½ of 20	¼ of 40	½ of 8	½ of 8	¼ of 16	¼ of 16
½ of 8	½ of 8	¼ of 16	½ of 8	½ of 20	½ of 20	½ of 20	½ of 20	¼ of 40	½ of 20	½ of 8	½ of 8	¼ of 20	½ of 8
½ of 8	½ of 8	¼ of 16	¼ of 12	¼ of 40	¼ of 40	¼ of 40	¼ of 40	¼ of 40	¼ of 40	½ of 6	½ of 8	½ of 8	½ of 8
½ of 8	¼ of 16	½ of 6	½ of 6	½ of 20	¼ of 40	½ of 20	¼ of 40	¼ of 40	½ of 20	¼ of 12	¼ of 12	¼ of 16	½ of 8
¼ of 16	¼ of 16	½ of 6	½ of 6	¼ of 16	½ of 12	¼ of 20	½ of 10	½ of 12	½ of 8	½ of 6	¼ of 12	¼ of 16	½ of 8
½ of 8	½ of 8	½ of 8	¼ of 16	½ of 8	¼ of 24	½ of 10	½ of 10	½ of 12	½ of 8	¼ of 16	¼ of 16	¼ of 16	¼ of 16
¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8	¼ of 16	¼ of 24	¼ of 24	¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8	½ of 8
¼ of 16	¼ of 16	½ of 10	½ of 8	¼ of 16	½ of 8	¼ of 16	¼ of 16	¼ of 16	¼ of 16	½ of 8	½ of 8	¼ of 20	¼ of 16

CHEAT SHEET · FRACTIONS

Acorn & Ink

Fractions made easy

Equal parts! In $\frac{3}{5}$ the whole is cut into **5** equal parts (bottom number) and you have **3** (top number).



Of an amount

Divide by the bottom, times by the top.

$\frac{3}{5}$ of 40: 40 ÷ 5 = 8, 8 × 3 = **24**

Equivalent and simplest form

Do the same to the top and the bottom.

$\frac{2}{3} = \frac{8}{12}$ (× 4) $\frac{18}{24} = \frac{3}{4}$ (÷ 6)

Comparing

Make the bottom numbers the same.

$\frac{2}{3} = \frac{10}{15}$ is bigger than $\frac{3}{5} = \frac{9}{15}$

Mixed numbers

11 ÷ 4 = 2 r 3, so $\frac{11}{4} = 2\frac{3}{4}$

3 × 5 + 2 = 17, so $3\frac{2}{5} = \frac{17}{5}$

Add and subtract

Same bottoms first, then the tops.

$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \mathbf{\frac{7}{12}}$

Multiply and divide

$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ (top × top, bottom × bottom)

$\frac{1}{3} \div 2 = \frac{1}{6}$ (times the bottom by 2)

Working backwards

$\frac{1}{4}$ is 9, so the whole is 9 × 4 = **36**

$\frac{2}{5}$ is 14, so $\frac{1}{5}$ is 7 and the whole is **35**

Watch out

Never add the bottom numbers.

$\frac{1}{8}$ is **smaller** than $\frac{1}{4}$ (more, smaller parts).

Fractions, decimals and percentages

$\frac{1}{2}$ = 0.5 = **50%**	$\frac{1}{4}$ = 0.25 = **25%**	$\frac{3}{4}$ = 0.75 = **75%**	$\frac{1}{5}$ = 0.2 = **20%**
$\frac{1}{10}$ = 0.1 = **10%**	$\frac{1}{8}$ = 0.125 = **12.5%**	$\frac{3}{8}$ = 0.375 = **37.5%**	$\frac{1}{100}$ = 0.01 = **1%**

FRACTIONS · AGES 7–9

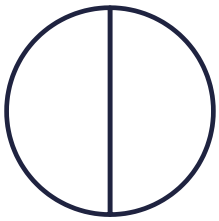
Shade the fraction

Acorn & Ink

Colour the fraction shown, or write the fraction that is coloured.

Name _____ Date _____ Score _____ / 12

Colour $\frac{1}{2}$



What fraction is coloured?



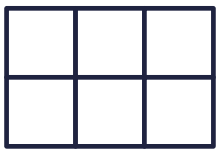
Colour $\frac{1}{3}$



What fraction is coloured?



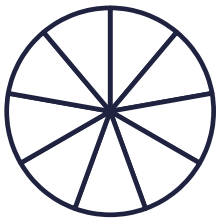
Colour $\frac{1}{6}$



What fraction is coloured?



Colour $\frac{5}{9}$



What fraction is coloured?



Colour $\frac{1}{4}$



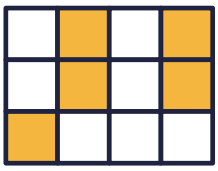
What fraction is coloured?



Colour $\frac{2}{4}$



What fraction is coloured?



Count all the equal parts for the bottom number. Count the coloured parts for the top number.

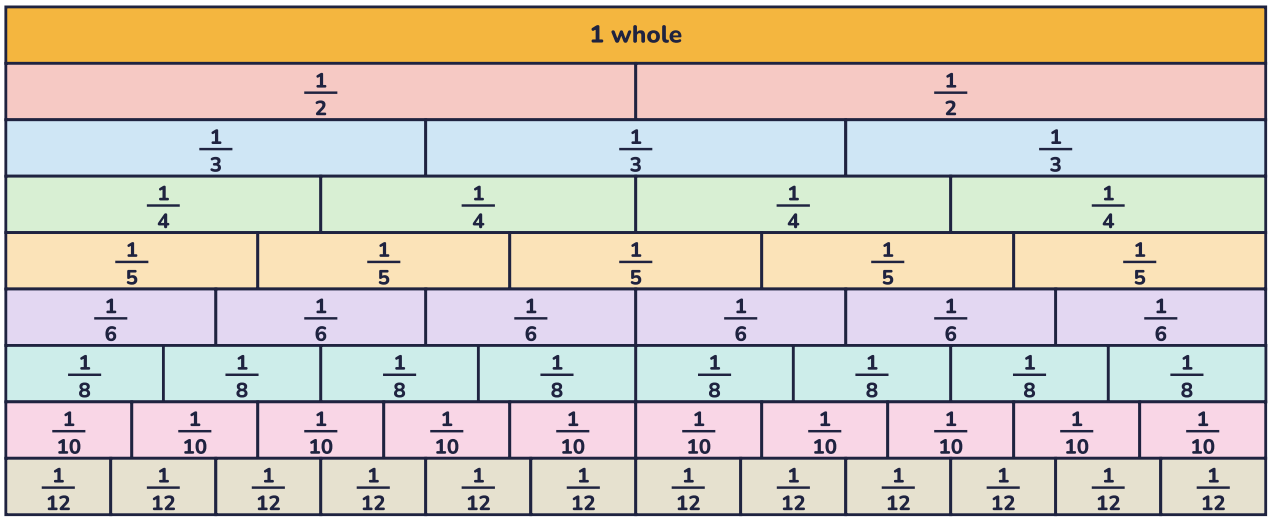
FRACTIONS · AGES 7–9

Equivalent fractions

Acorn & Ink

Use the fraction wall to find the missing numbers. The fractions on each side cover the same length.

Name _____ Date _____ Score _____ / 12



1. $\frac{4}{10} = \frac{\square}{5}$

2. $\frac{6}{10} = \frac{\square}{5}$

3. $\frac{10}{12} = \frac{\square}{6}$

4. $\frac{4}{8} = \frac{1}{\square}$

5. $\frac{1}{2} = \frac{\square}{12}$

6. $\frac{4}{6} = \frac{\square}{12}$

7. $\frac{6}{12} = \frac{\square}{4}$

8. $\frac{2}{6} = \frac{4}{\square}$

9. $\frac{5}{10} = \frac{\square}{8}$

10. $\frac{4}{5} = \frac{\square}{10}$

11. $\frac{2}{3} = \frac{\square}{6}$

12. $\frac{3}{6} = \frac{4}{\square}$

Acorn & Ink

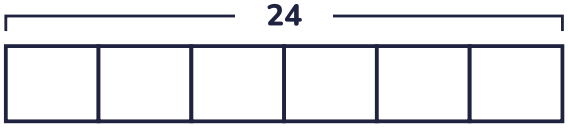
Fractions of amounts

Find each fraction of the amount.

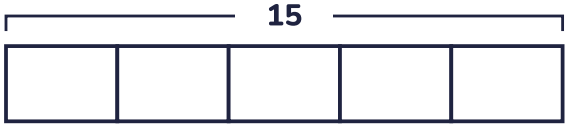
Name _____ Date _____ Score _____ / 16

Use the bar to help Write how much each part is worth.

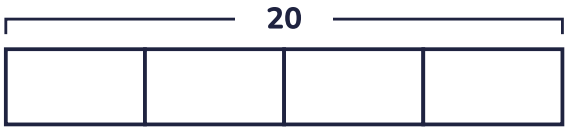
$\frac{1}{6}$ of 24 = _____



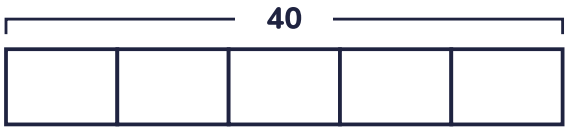
$\frac{1}{5}$ of 15 = _____



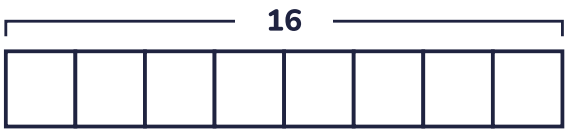
$\frac{3}{4}$ of 20 = _____



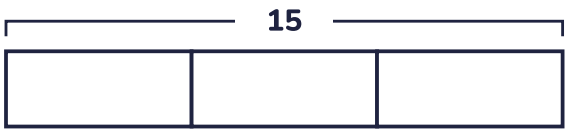
$\frac{3}{5}$ of 40 = _____



$\frac{1}{8}$ of 16 = _____



$\frac{1}{3}$ of 15 = _____



Now try these Divide by the bottom, times by the top.

1. $\frac{1}{3}$ of 6 = _____
2. $\frac{1}{3}$ of 33 = _____
3. $\frac{1}{8}$ of 72 = _____
4. $\frac{1}{8}$ of 32 = _____
5. $\frac{2}{3}$ of 12 = _____
6. $\frac{1}{4}$ of 40 = _____
7. $\frac{1}{2}$ of 22 = _____
8. $\frac{1}{4}$ of 8 = _____
9. $\frac{1}{6}$ of 30 = _____
10. $\frac{1}{10}$ of 110 = _____

FRACTIONS · AGES 7–9

Add and subtract fractions

Acorn & Ink

The bottom numbers match, so only the top numbers change.

Name _____ Date _____ Score _____ / 12

1. $\frac{4}{11} + \frac{2}{11} = \square$



2. $\frac{3}{10} + \frac{6}{10} = \square$



3. $\frac{3}{10} - \frac{1}{10} = \square$



4. $\frac{3}{7} - \frac{1}{7} = \square$



5. $\frac{1}{10} + \frac{4}{10} = \square$



6. $\frac{2}{4} - \frac{1}{4} = \square$



7. $\frac{2}{3} - \frac{1}{3} = \square$



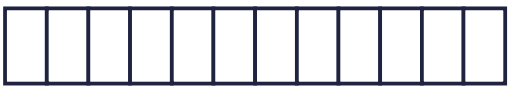
8. $\frac{1}{6} + \frac{4}{6} = \square$



9. $\frac{4}{5} - \frac{1}{5} = \square$



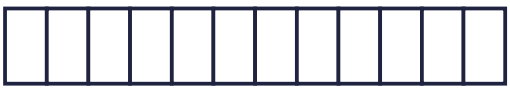
10. $\frac{7}{12} + \frac{4}{12} = \square$



11. $\frac{4}{6} + \frac{1}{6} = \square$



12. $\frac{3}{12} + \frac{1}{12} = \square$



The bottom number stays the same. Add or take away the top numbers. Colour the bar to check.

FRACTIONS · AGES 7–9

Compare and order

Acorn & Ink

Remember: when the top numbers are the same, a bigger bottom number means smaller parts.

Name _____ Date _____ Score _____ / 16

Bigger or smaller? Write <, > or = in each circle.

1. $\frac{1}{2}$ ◯ $\frac{1}{3}$

2. $\frac{6}{8}$ ◯ $\frac{2}{8}$

3. $\frac{3}{10}$ ◯ $\frac{2}{10}$

4. $\frac{1}{11}$ ◯ $\frac{1}{12}$

5. $\frac{2}{7}$ ◯ $\frac{5}{7}$

6. $\frac{4}{10}$ ◯ $\frac{2}{10}$

7. $\frac{1}{10}$ ◯ $\frac{1}{11}$

8. $\frac{1}{11}$ ◯ $\frac{1}{8}$

9. $\frac{1}{12}$ ◯ $\frac{1}{10}$

10. $\frac{1}{12}$ ◯ $\frac{1}{9}$

11. $\frac{4}{5}$ ◯ $\frac{2}{5}$

12. $\frac{6}{12}$ ◯ $\frac{10}{12}$

Put them in order Smallest first.

$\frac{1}{4}$ $\frac{1}{12}$ $\frac{1}{8}$ $\frac{1}{3}$ → ☐ ☐ ☐ ☐

$\frac{2}{9}$ $\frac{1}{9}$ $\frac{3}{9}$ $\frac{5}{9}$ → ☐ ☐ ☐ ☐

$\frac{1}{10}$ $\frac{1}{2}$ $\frac{1}{6}$ $\frac{1}{5}$ → ☐ ☐ ☐ ☐

$\frac{2}{11}$ $\frac{9}{11}$ $\frac{3}{11}$ $\frac{10}{11}$ → ☐ ☐ ☐ ☐

ANSWERS · FRACTIONS · AGES 7–9

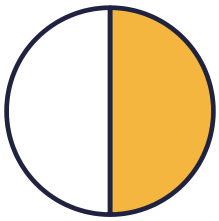
Shade the fraction

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

Colour $\frac{1}{2}$



What fraction is coloured?



$\frac{4}{8}$

Colour $\frac{1}{3}$

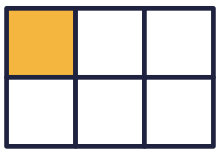


What fraction is coloured?



$\frac{4}{6}$

Colour $\frac{1}{6}$

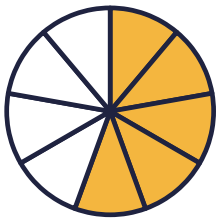


What fraction is coloured?



$\frac{3}{4}$

Colour $\frac{5}{9}$



What fraction is coloured?



$\frac{4}{10}$

Colour $\frac{1}{4}$



What fraction is coloured?

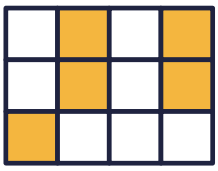


$\frac{2}{6}$

Colour $\frac{2}{4}$



What fraction is coloured?



$\frac{5}{12}$

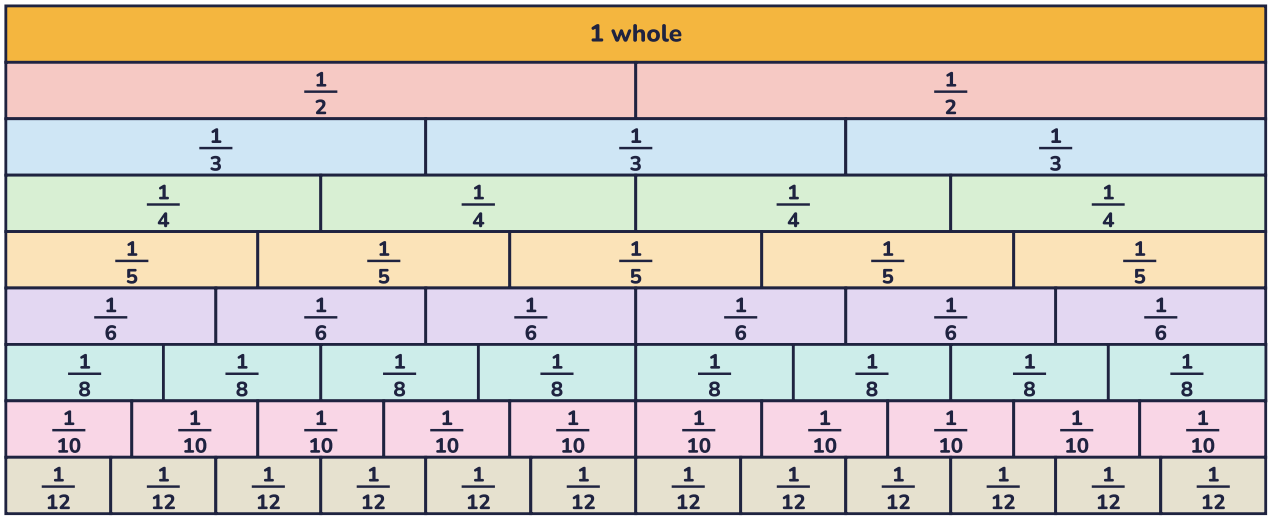
Count all the equal parts for the bottom number. Count the coloured parts for the top number.

Equivalent fractions

Acorn & Ink

Answers are shown in red.

Name _____ Date _____



1. $\frac{4}{10} = \frac{\boxed{2}}{5}$

2. $\frac{6}{10} = \frac{\boxed{3}}{5}$

3. $\frac{10}{12} = \frac{\boxed{5}}{6}$

4. $\frac{4}{8} = \frac{1}{\boxed{2}}$

5. $\frac{1}{2} = \frac{\boxed{6}}{12}$

6. $\frac{4}{6} = \frac{\boxed{8}}{12}$

7. $\frac{6}{12} = \frac{\boxed{2}}{4}$

8. $\frac{2}{6} = \frac{4}{\boxed{12}}$

9. $\frac{5}{10} = \frac{\boxed{4}}{8}$

10. $\frac{4}{5} = \frac{\boxed{8}}{10}$

11. $\frac{2}{3} = \frac{\boxed{4}}{6}$

12. $\frac{3}{6} = \frac{4}{\boxed{8}}$

Acorn & Ink

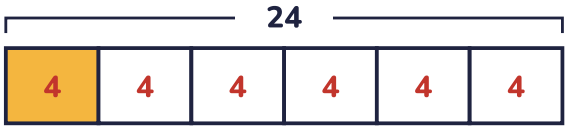
Fractions of amounts

Answers are shown in red.

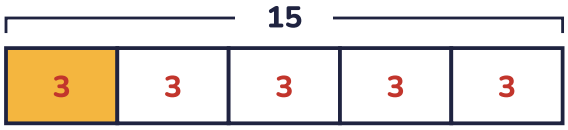
Name _____ Date _____

Use the bar to help Write how much each part is worth.

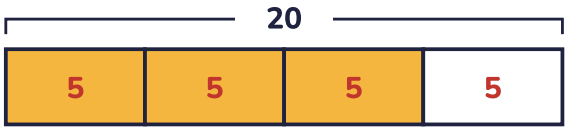
$\frac{1}{6}$ of 24 = **4**



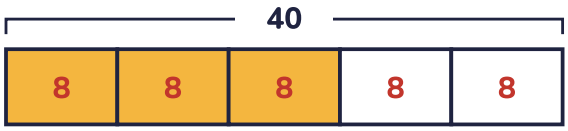
$\frac{1}{5}$ of 15 = **3**



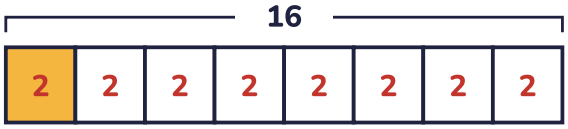
$\frac{3}{4}$ of 20 = **15**



$\frac{3}{5}$ of 40 = **24**



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



$\frac{1}{3}$ of 15 = **5**



Now try these Divide by the bottom, times by the top.

1. $\frac{1}{3}$ of 6 = **2**
2. $\frac{1}{3}$ of 33 = **11**
3. $\frac{1}{8}$ of 72 = **9**
4. $\frac{1}{8}$ of 32 = **4**
5. $\frac{2}{3}$ of 12 = **8**
6. $\frac{1}{4}$ of 40 = **10**
7. $\frac{1}{2}$ of 22 = **11**
8. $\frac{1}{4}$ of 8 = **2**
9. $\frac{1}{6}$ of 30 = **5**
10. $\frac{1}{10}$ of 110 = **11**

ANSWERS · FRACTIONS · AGES 7–9

Add and subtract fractions

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

1. $\frac{4}{11} + \frac{2}{11} = \frac{6}{11}$



2. $\frac{3}{10} + \frac{6}{10} = \frac{9}{10}$



3. $\frac{3}{10} - \frac{1}{10} = \frac{2}{10}$



4. $\frac{3}{7} - \frac{1}{7} = \frac{2}{7}$



5. $\frac{1}{10} + \frac{4}{10} = \frac{5}{10}$



6. $\frac{2}{4} - \frac{1}{4} = \frac{1}{4}$



7. $\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$



8. $\frac{1}{6} + \frac{4}{6} = \frac{5}{6}$



9. $\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$



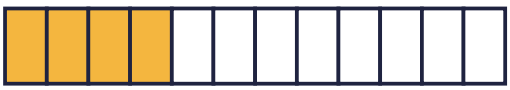
10. $\frac{7}{12} + \frac{4}{12} = \frac{11}{12}$



11. $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$



12. $\frac{3}{12} + \frac{1}{12} = \frac{4}{12}$



The bottom number stays the same. Add or take away the top numbers. Colour the bar to check.

Acorn & Ink

Compare and order

Answers are shown in red.

Name _____ Date _____

Bigger or smaller? Write <, > or = in each circle.

1. $\frac{1}{2}$ **>** $\frac{1}{3}$
2. $\frac{6}{8}$ **>** $\frac{2}{8}$
3. $\frac{3}{10}$ **>** $\frac{2}{10}$
4. $\frac{1}{11}$ **>** $\frac{1}{12}$
5. $\frac{2}{7}$ **<** $\frac{5}{7}$
6. $\frac{4}{10}$ **>** $\frac{2}{10}$
7. $\frac{1}{10}$ **>** $\frac{1}{11}$
8. $\frac{1}{11}$ **<** $\frac{1}{8}$
9. $\frac{1}{12}$ **<** $\frac{1}{10}$
10. $\frac{1}{12}$ **<** $\frac{1}{9}$
11. $\frac{4}{5}$ **>** $\frac{2}{5}$
12. $\frac{6}{12}$ **<** $\frac{10}{12}$

Put them in order Smallest first.

$\frac{1}{4}$ $\frac{1}{12}$ $\frac{1}{8}$ $\frac{1}{3}$ → **$\frac{1}{12}$** **$\frac{1}{8}$** **$\frac{1}{4}$** **$\frac{1}{3}$**

$\frac{2}{9}$ $\frac{1}{9}$ $\frac{3}{9}$ $\frac{5}{9}$ → **$\frac{1}{9}$** **$\frac{2}{9}$** **$\frac{3}{9}$** **$\frac{5}{9}$**

$\frac{1}{10}$ $\frac{1}{2}$ $\frac{1}{6}$ $\frac{1}{5}$ → **$\frac{1}{10}$** **$\frac{1}{6}$** **$\frac{1}{5}$** **$\frac{1}{2}$**

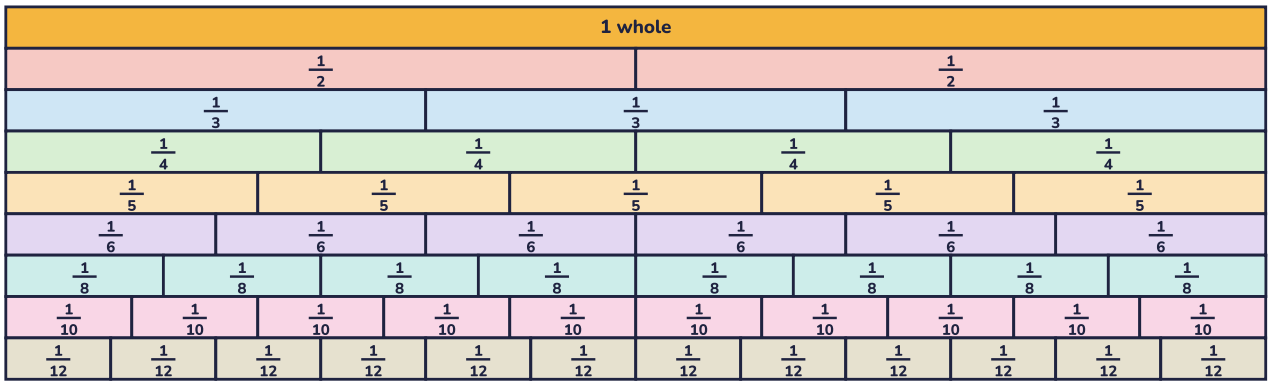
$\frac{2}{11}$ $\frac{9}{11}$ $\frac{3}{11}$ $\frac{10}{11}$ → **$\frac{2}{11}$** **$\frac{3}{11}$** **$\frac{9}{11}$** **$\frac{10}{11}$**

CHEAT SHEET · FRACTIONS

Acorn & Ink

Fractions made easy

Equal parts! In $\frac{3}{5}$ the whole is cut into **5** equal parts (bottom number) and you have **3** (top number).



Of an amount

Divide by the bottom, times by the top.

$\frac{3}{5}$ of 40: 40 ÷ 5 = 8, 8 × 3 = **24**

Equivalent and simplest form

Do the same to the top and the bottom.

$\frac{2}{3} = \frac{8}{12}$ (× 4) $\frac{18}{24} = \frac{3}{4}$ (÷ 6)

Comparing

Make the bottom numbers the same.

$\frac{2}{3} = \frac{10}{15}$ is bigger than $\frac{3}{5} = \frac{9}{15}$

Mixed numbers

11 ÷ 4 = 2 r 3, so $\frac{11}{4} = 2\frac{3}{4}$

3 × 5 + 2 = 17, so $3\frac{2}{5} = \frac{17}{5}$

Add and subtract

Same bottoms first, then the tops.

$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \mathbf{\frac{7}{12}}$

Multiply and divide

$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ (top × top, bottom × bottom)

$\frac{1}{3} \div 2 = \frac{1}{6}$ (times the bottom by 2)

Working backwards

$\frac{1}{4}$ is 9, so the whole is 9 × 4 = **36**

$\frac{2}{5}$ is 14, so $\frac{1}{5}$ is 7 and the whole is **35**

Watch out

Never add the bottom numbers.

$\frac{1}{8}$ is **smaller** than $\frac{1}{4}$ (more, smaller parts).

Fractions, decimals and percentages

$\frac{1}{2}$ = 0.5 = **50%**	$\frac{1}{4}$ = 0.25 = **25%**	$\frac{3}{4}$ = 0.75 = **75%**	$\frac{1}{5}$ = 0.2 = **20%**
$\frac{1}{10}$ = 0.1 = **10%**	$\frac{1}{8}$ = 0.125 = **12.5%**	$\frac{3}{8}$ = 0.375 = **37.5%**	$\frac{1}{100}$ = 0.01 = **1%**

FRACTIONS · AGES 9–11

Equivalent fractions and simplifying

Acorn & Ink

Multiply or divide the top and the bottom by the same number.

Name _____ Date _____ Score _____ / 18

Find the missing number

1. $\frac{7}{8} = \frac{\square}{32}$

2. $\frac{1}{2} = \frac{\square}{10}$

3. $\frac{1}{4} = \frac{\square}{28}$

4. $\frac{2}{5} = \frac{20}{\square}$

5. $\frac{1}{12} = \frac{\square}{72}$

6. $\frac{2}{3} = \frac{14}{\square}$

7. $\frac{1}{2} = \frac{\square}{18}$

8. $\frac{5}{12} = \frac{\square}{60}$

Simplify fully

Divide the top and bottom by the same number until you can't go any further.

9. $\frac{56}{96} = \square$

10. $\frac{49}{84} = \square$

11. $\frac{88}{99} = \square$

12. $\frac{2}{8} = \square$

13. $\frac{42}{72} = \square$

14. $\frac{25}{30} = \square$

15. $\frac{24}{60} = \square$

16. $\frac{30}{40} = \square$

17. $\frac{9}{54} = \square$

18. $\frac{40}{96} = \square$

FRACTIONS · AGES 9–11

Mixed numbers

Acorn & Ink

Change improper fractions into mixed numbers, and mixed numbers into improper fractions.

Name _____ Date _____ Score _____ / 16

Improper fraction to mixed number How many wholes? What is left over?

1. $\frac{37}{11} =$ ☐
2. $\frac{13}{3} =$ ☐
3. $\frac{17}{6} =$ ☐
4. $\frac{8}{5} =$ ☐
5. $\frac{47}{11} =$ ☐
6. $\frac{53}{8} =$ ☐
7. $\frac{8}{3} =$ ☐
8. $\frac{43}{10} =$ ☐

Mixed number to improper fraction Wholes × bottom number, then add the top.

9. $3\frac{1}{5} =$ ☐
10. $1\frac{1}{12} =$ ☐
11. $4\frac{2}{3} =$ ☐
12. $2\frac{1}{2} =$ ☐
13. $1\frac{1}{8} =$ ☐
14. $3\frac{7}{12} =$ ☐
15. $1\frac{3}{10} =$ ☐
16. $6\frac{4}{11} =$ ☐

FRACTIONS · AGES 9–11

Add and subtract fractions

Make the bottom numbers the same first. Give answers in their simplest form, and write answers bigger than 1 as mixed numbers.

Name _____ Date _____ Score _____ / 16

One bottom number fits into the other

1. $\frac{5}{8} - \frac{1}{2} =$ ☐

2. $\frac{7}{12} + \frac{1}{4} =$ ☐

3. $\frac{1}{9} + \frac{1}{3} =$ ☐

4. $\frac{7}{9} - \frac{1}{3} =$ ☐

5. $\frac{1}{6} + \frac{7}{18} =$ ☐

6. $\frac{5}{6} + \frac{2}{3} =$ ☐

Different bottom numbers

7. $\frac{2}{5} - \frac{1}{3} =$ ☐

8. $\frac{1}{2} - \frac{4}{9} =$ ☐

9. $\frac{5}{9} - \frac{1}{4} =$ ☐

10. $\frac{1}{4} + \frac{2}{5} =$ ☐

11. $\frac{5}{7} - \frac{1}{4} =$ ☐

12. $\frac{1}{5} + \frac{1}{4} =$ ☐

Mixed numbers

13. $3\frac{3}{5} + 3\frac{2}{3} =$ ☐

14. $1\frac{1}{3} + 2\frac{1}{6} =$ ☐

15. $1\frac{1}{4} + 2\frac{5}{6} =$ ☐

16. $4\frac{1}{3} + 3\frac{1}{2} =$ ☐

FRACTIONS · AGES 9–11

Multiply and divide

Acorn & Ink

Give answers in their simplest form. Write answers bigger than 1 as mixed numbers.

Name _____ Date _____ Score _____ / 16

Multiply by a whole number

1. $\frac{1}{2} \times 3 =$ ☐

2. $\frac{1}{8} \times 3 =$ ☐

3. $3\frac{1}{3} \times 2 =$ ☐

4. $\frac{3}{8} \times 5 =$ ☐

5. $\frac{3}{5} \times 5 =$ ☐

6. $\frac{8}{9} \times 3 =$ ☐

Multiply two fractions Tops times tops, bottoms times bottoms.

7. $\frac{1}{2} \times \frac{5}{6} =$ ☐

8. $\frac{1}{6} \times \frac{1}{2} =$ ☐

9. $\frac{5}{6} \times \frac{2}{3} =$ ☐

10. $\frac{5}{6} \times \frac{5}{6} =$ ☐

11. $\frac{2}{3} \times \frac{1}{2} =$ ☐

12. $\frac{2}{3} \times \frac{2}{3} =$ ☐

Divide by a whole number

13. $\frac{1}{2} \div 3 =$ ☐

14. $\frac{3}{8} \div 2 =$ ☐

15. $\frac{3}{8} \div 4 =$ ☐

16. $\frac{3}{5} \div 4 =$ ☐

Acorn & Ink

Fractions of amounts

Divide by the bottom number, then times by the top number.

Name _____ Date _____ Score _____ / 16

1. $\frac{2}{5}$ of 95 = _____
2. $\frac{2}{3}$ of 63 = _____
3. $\frac{5}{6}$ of 132 = _____
4. $\frac{1}{6}$ of 24 = _____
5. $\frac{9}{10}$ of 120 = _____
6. $\frac{1}{4}$ of 72 = _____
7. $\frac{3}{10}$ of 190 = _____
8. $\frac{6}{7}$ of 42 = _____
9. $\frac{5}{6}$ of 54 = _____
10. $\frac{4}{7}$ of 84 = _____
11. $\frac{2}{3}$ of 69 = _____
12. $\frac{5}{8}$ of 112 = _____

Working backwards Find one part first, then the whole.

13. Ruby spent $\frac{1}{3}$ of their savings on a game. The game cost £10. How much were the savings? _____

14. $\frac{1}{6}$ of a ribbon is 5 cm long. How long is the whole ribbon? _____

15. A bottle is $\frac{7}{8}$ full. It has 21 ml of water in it. How much does the full bottle hold? _____

16. Mia has read $\frac{1}{4}$ of a book. That's 14 pages. How many pages are in the book? _____

Fractions, decimals and percentages

Acorn & Ink

Each row shows one amount. Fill in the two missing ways of writing it.

Name _____ Date _____ Score _____ / 20

Fraction	Decimal	Percentage
	0.16	
		20%
$\frac{7}{10}$		
$\frac{71}{100}$		
	0.02	
		1%
		40%
$\frac{7}{20}$		
	0.1	
$\frac{1}{20}$		

A fraction is a division: $\frac{3}{8} = 3 \div 8 = 0.375$. Write fractions in their simplest form.

Acorn & Ink

Equivalent fractions and simplifying

Answers are shown in red.

Name _____ Date _____

Find the missing number

1. $\frac{7}{8} = \frac{\boxed{28}}{32}$
2. $\frac{1}{2} = \frac{\boxed{5}}{10}$
3. $\frac{1}{4} = \frac{\boxed{7}}{28}$
4. $\frac{2}{5} = \frac{20}{\boxed{50}}$
5. $\frac{1}{12} = \frac{\boxed{6}}{72}$
6. $\frac{2}{3} = \frac{14}{\boxed{21}}$
7. $\frac{1}{2} = \frac{\boxed{9}}{18}$
8. $\frac{5}{12} = \frac{\boxed{25}}{60}$

Simplify fully

Divide the top and bottom by the same number until you can't go any further.

9. $\frac{56}{96} = \boxed{\frac{7}{12}}$
10. $\frac{49}{84} = \boxed{\frac{7}{12}}$
11. $\frac{88}{99} = \boxed{\frac{8}{9}}$
12. $\frac{2}{8} = \boxed{\frac{1}{4}}$
13. $\frac{42}{72} = \boxed{\frac{7}{12}}$
14. $\frac{25}{30} = \boxed{\frac{5}{6}}$
15. $\frac{24}{60} = \boxed{\frac{2}{5}}$
16. $\frac{30}{40} = \boxed{\frac{3}{4}}$
17. $\frac{9}{54} = \boxed{\frac{1}{6}}$
18. $\frac{40}{96} = \boxed{\frac{5}{12}}$

Mixed numbers

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

Improper fraction to mixed number How many wholes? What is left over?

1. $\frac{37}{11} = 3\frac{4}{11}$
2. $\frac{13}{3} = 4\frac{1}{3}$
3. $\frac{17}{6} = 2\frac{5}{6}$
4. $\frac{8}{5} = 1\frac{3}{5}$
5. $\frac{47}{11} = 4\frac{3}{11}$
6. $\frac{53}{8} = 6\frac{5}{8}$
7. $\frac{8}{3} = 2\frac{2}{3}$
8. $\frac{43}{10} = 4\frac{3}{10}$

Mixed number to improper fraction Wholes × bottom number, then add the top.

9. $3\frac{1}{5} = \frac{16}{5}$
10. $1\frac{1}{12} = \frac{13}{12}$
11. $4\frac{2}{3} = \frac{14}{3}$
12. $2\frac{1}{2} = \frac{5}{2}$
13. $1\frac{1}{8} = \frac{9}{8}$
14. $3\frac{7}{12} = \frac{43}{12}$
15. $1\frac{3}{10} = \frac{13}{10}$
16. $6\frac{4}{11} = \frac{70}{11}$

Add and subtract fractions

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

One bottom number fits into the other

1. $\frac{5}{8} - \frac{1}{2} = \boxed{\frac{1}{8}}$

2. $\frac{7}{12} + \frac{1}{4} = \boxed{\frac{5}{6}}$

3. $\frac{1}{9} + \frac{1}{3} = \boxed{\frac{4}{9}}$

4. $\frac{7}{9} - \frac{1}{3} = \boxed{\frac{4}{9}}$

5. $\frac{1}{6} + \frac{7}{18} = \boxed{\frac{5}{9}}$

6. $\frac{5}{6} + \frac{2}{3} = \boxed{1\frac{1}{2}}$

Different bottom numbers

7. $\frac{2}{5} - \frac{1}{3} = \boxed{\frac{1}{15}}$

8. $\frac{1}{2} - \frac{4}{9} = \boxed{\frac{1}{18}}$

9. $\frac{5}{9} - \frac{1}{4} = \boxed{\frac{11}{36}}$

10. $\frac{1}{4} + \frac{2}{5} = \boxed{\frac{13}{20}}$

11. $\frac{5}{7} - \frac{1}{4} = \boxed{\frac{13}{28}}$

12. $\frac{1}{5} + \frac{1}{4} = \boxed{\frac{9}{20}}$

Mixed numbers

13. $3\frac{3}{5} + 3\frac{2}{3} = \boxed{7\frac{4}{15}}$

14. $1\frac{1}{3} + 2\frac{1}{6} = \boxed{3\frac{1}{2}}$

15. $1\frac{1}{4} + 2\frac{5}{6} = \boxed{4\frac{1}{12}}$

16. $4\frac{1}{3} + 3\frac{1}{2} = \boxed{7\frac{5}{6}}$

Multiply and divide

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

Multiply by a whole number

1. $\frac{1}{2} \times 3 =$ **$1\frac{1}{2}$**
2. $\frac{1}{8} \times 3 =$ **$\frac{3}{8}$**
3. $3\frac{1}{3} \times 2 =$ **$6\frac{2}{3}$**
4. $\frac{3}{8} \times 5 =$ **$1\frac{7}{8}$**
5. $\frac{3}{5} \times 5 =$ **3**
6. $\frac{8}{9} \times 3 =$ **$2\frac{2}{3}$**

Multiply two fractions Tops times tops, bottoms times bottoms.

7. $\frac{1}{2} \times \frac{5}{6} =$ **$\frac{5}{12}$**
8. $\frac{1}{6} \times \frac{1}{2} =$ **$\frac{1}{12}$**
9. $\frac{5}{6} \times \frac{2}{3} =$ **$\frac{5}{9}$**
10. $\frac{5}{6} \times \frac{5}{6} =$ **$\frac{25}{36}$**
11. $\frac{2}{3} \times \frac{1}{2} =$ **$\frac{1}{3}$**
12. $\frac{2}{3} \times \frac{2}{3} =$ **$\frac{4}{9}$**

Divide by a whole number

13. $\frac{1}{2} \div 3 =$ **$\frac{1}{6}$**
14. $\frac{3}{8} \div 2 =$ **$\frac{3}{16}$**
15. $\frac{3}{8} \div 4 =$ **$\frac{3}{32}$**
16. $\frac{3}{5} \div 4 =$ **$\frac{3}{20}$**

Acorn & Ink

Fractions of amounts

Answers are shown in red.

Name _____ Date _____

1. $\frac{2}{5}$ of 95 = **38**
2. $\frac{2}{3}$ of 63 = **42**
3. $\frac{5}{6}$ of 132 = **110**
4. $\frac{1}{6}$ of 24 = **4**
5. $\frac{9}{10}$ of 120 = **108**
6. $\frac{1}{4}$ of 72 = **18**
7. $\frac{3}{10}$ of 190 = **57**
8. $\frac{6}{7}$ of 42 = **36**
9. $\frac{5}{6}$ of 54 = **45**
10. $\frac{4}{7}$ of 84 = **48**
11. $\frac{2}{3}$ of 69 = **46**
12. $\frac{5}{8}$ of 112 = **70**

Working backwards Find one part first, then the whole.

13. Ruby spent $\frac{1}{3}$ of their savings on a game. The game cost £10. How much were the savings? **£30**

14. $\frac{1}{6}$ of a ribbon is 5 cm long. How long is the whole ribbon? **30 cm**

15. A bottle is $\frac{7}{8}$ full. It has 21 ml of water in it. How much does the full bottle hold? **24 ml**

16. Mia has read $\frac{1}{4}$ of a book. That's 14 pages. How many pages are in the book? **56 pages**

Acorn & Ink

Fractions, decimals and percentages

Answers are shown in red.

Name _____ Date _____

Fraction	Decimal	Percentage
$\frac{4}{25}$	0.16	16%
$\frac{1}{5}$	0.2	20%
$\frac{7}{10}$	0.7	70%
$\frac{71}{100}$	0.71	71%
$\frac{1}{50}$	0.02	2%
$\frac{1}{100}$	0.01	1%
$\frac{2}{5}$	0.4	40%
$\frac{7}{20}$	0.35	35%
$\frac{1}{10}$	0.1	10%
$\frac{1}{20}$	0.05	5%

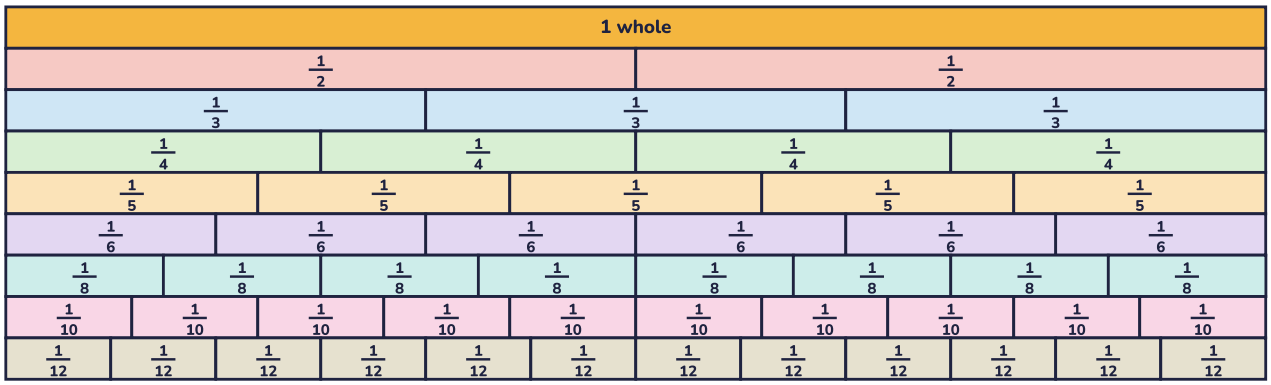
A fraction is a division: $\frac{3}{8} = 3 \div 8 = 0.375$. Write fractions in their simplest form.

CHEAT SHEET · FRACTIONS

Acorn & Ink

Fractions made easy

Equal parts! In $\frac{3}{5}$ the whole is cut into **5** equal parts (bottom number) and you have **3** (top number).



Of an amount

Divide by the bottom, times by the top.

$\frac{3}{5}$ of 40: 40 ÷ 5 = 8, 8 × 3 = **24**

Equivalent and simplest form

Do the same to the top and the bottom.

$\frac{2}{3} = \frac{8}{12}$ (× 4) $\frac{18}{24} = \frac{3}{4}$ (÷ 6)

Comparing

Make the bottom numbers the same.

$\frac{2}{3} = \frac{10}{15}$ is bigger than $\frac{3}{5} = \frac{9}{15}$

Mixed numbers

11 ÷ 4 = 2 r 3, so $\frac{11}{4} = 2\frac{3}{4}$

3 × 5 + 2 = 17, so $3\frac{2}{5} = \frac{17}{5}$

Add and subtract

Same bottoms first, then the tops.

$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \mathbf{\frac{7}{12}}$

Multiply and divide

$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ (top × top, bottom × bottom)

$\frac{1}{3} \div 2 = \frac{1}{6}$ (times the bottom by 2)

Working backwards

$\frac{1}{4}$ is 9, so the whole is 9 × 4 = **36**

$\frac{2}{5}$ is 14, so $\frac{1}{5}$ is 7 and the whole is **35**

Watch out

Never add the bottom numbers.

$\frac{1}{8}$ is **smaller** than $\frac{1}{4}$ (more, smaller parts).

Fractions, decimals and percentages

$\frac{1}{2}$ = 0.5 = **50%**	$\frac{1}{4}$ = 0.25 = **25%**	$\frac{3}{4}$ = 0.75 = **75%**	$\frac{1}{5}$ = 0.2 = **20%**
$\frac{1}{10}$ = 0.1 = **10%**	$\frac{1}{8}$ = 0.125 = **12.5%**	$\frac{3}{8}$ = 0.375 = **37.5%**	$\frac{1}{100}$ = 0.01 = **1%**

FRACTIONS · AGES 11–14

The four operations

Acorn & Ink

Give each answer in its simplest form. Write answers bigger than 1 (or less than −1) as mixed numbers.

Name _____ Date _____ Score _____ / 16

1. $1\frac{3}{5} \times \frac{3}{4} =$ ☐

2. $2\frac{1}{2} \div 2\frac{1}{2} =$ ☐

3. $\frac{9}{5} \times \frac{4}{9} =$ ☐

4. $1\frac{5}{6} - 1\frac{1}{5} =$ ☐

5. $3\frac{1}{2} \div 1\frac{1}{6} =$ ☐

6. $\frac{5}{6} \div 2\frac{2}{5} =$ ☐

7. $\frac{1}{6} \times 1\frac{4}{5} =$ ☐

8. $\frac{1}{8} - \frac{3}{8} =$ ☐

9. $-2\frac{5}{6} - \frac{5}{6} =$ ☐

10. $3\frac{5}{8} + \frac{1}{12} =$ ☐

11. $-\frac{13}{6} \times 3\frac{5}{6} =$ ☐

12. $-\frac{1}{3} \div \frac{4}{9} =$ ☐

13. $\frac{3}{4} + \frac{1}{2} =$ ☐

14. $\frac{5}{3} - \frac{11}{6} =$ ☐

15. $1\frac{1}{6} + \frac{7}{10} =$ ☐

16. $\frac{11}{6} + 2\frac{1}{5} =$ ☐

Change mixed numbers to improper fractions first. To divide, turn the second fraction upside down and multiply.

Fractions of and as fractions

Use fractions as operators, and write one amount as a fraction of another.

Name _____ Date _____ Score _____ / 18

Fractions of amounts Some of these fractions are bigger than 1.

1. $\frac{1}{5}$ of 75 = _____
2. $\frac{1}{8}$ of 48 = _____
3. $2\frac{1}{3}$ of 27 = _____
4. $\frac{7}{12}$ of 168 = _____
5. $1\frac{3}{4}$ of 24 = _____
6. $\frac{2}{3}$ of 57 = _____
7. $\frac{7}{9}$ of 108 = _____
8. $1\frac{1}{3}$ of 42 = _____
9. $2\frac{1}{2}$ of 14 = _____
10. $\frac{3}{5}$ of 85 = _____

Write the first amount as a fraction of the second Simplest form.

11. 135 minutes as a fraction of an hour
12. 21 as a fraction of 9
13. 500 ml as a fraction of a litre
14. 30 minutes as a fraction of an hour
15. 55 cm as a fraction of a metre
16. 8 as a fraction of 20
17. 250 g as a fraction of a kilogram
18. 190p as a fraction of £2

Make the units match first: 1 hour = 60 minutes, 1 m = 100 cm, £1 = 100p, 1 kg = 1,000 g and 1 litre = 1,000 ml.

Acorn & Ink

Fractions and decimals

Every decimal on this sheet stops, so you can write it exactly as a fraction.

Name _____ Date _____ Score _____ / 20

Decimal to fraction Simplest form. Use an improper fraction if it's bigger than 1.

1. 0.75 = ☐
2. 0.1 = ☐
3. 1.64 = ☐
4. 0.23 = ☐
5. 0.7 = ☐
6. 0.54 = ☐
7. 0.8 = ☐
8. 2.5 = ☐
9. 0.25 = ☐
10. 0.6 = ☐

Fraction to decimal Divide the top by the bottom.

11. $\frac{329}{100}$ = _____
12. $\frac{1}{2}$ = _____
13. $\frac{3}{10}$ = _____
14. $\frac{19}{8}$ = _____
15. $\frac{1}{5}$ = _____
16. $\frac{13}{10}$ = _____
17. $\frac{9}{50}$ = _____
18. $\frac{9}{20}$ = _____
19. $\frac{17}{40}$ = _____
20. $\frac{7}{2}$ = _____

FRACTIONS · AGES 11–14

Fraction word problems

Acorn & Ink

Read each problem carefully and show your working. Give fractions in their simplest form.

Name _____ **Date** _____ **Score** _____ / 8

1. A ribbon is $2\frac{1}{4}$ m long. Finn cuts off $\frac{7}{8}$ m. How much ribbon is left? _____

2. A water tank holds 80 litres when it is full. It is $\frac{7}{8}$ full. How many litres of water are in it? _____

3. Sam has read $\frac{2}{5}$ of a book. That's 26 pages. How many pages are in the whole book? _____

4. Leo runs $3\frac{1}{2}$ km and Finn runs $2\frac{5}{6}$ km. How much further does Leo run? _____

5. $\frac{7}{8}$ of the 32 children at a swimming club can swim a length. How many children can't swim a length yet? _____

6. A recipe needs $\frac{3}{4}$ of a cup of milk for one batch of pancakes. How much milk is needed for 7 batches? _____

7. A train journey takes $2\frac{2}{3}$ hours. The bus ride after it takes $\frac{1}{3}$ of an hour. How long is the whole journey? _____

8. A jug holds $\frac{1}{5}$ of a litre of juice. It is shared equally between 4 glasses. How much juice goes in each glass? _____

The four operations

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

1. $1\frac{3}{5} \times \frac{3}{4} = \mathbf{1\frac{1}{5}}$

2. $2\frac{1}{2} \div 2\frac{1}{2} = \mathbf{1}$

3. $\frac{9}{5} \times \frac{4}{9} = \mathbf{\frac{4}{5}}$

4. $1\frac{5}{6} - 1\frac{1}{5} = \mathbf{\frac{19}{30}}$

5. $3\frac{1}{2} \div 1\frac{1}{6} = \mathbf{3}$

6. $\frac{5}{6} \div 2\frac{2}{5} = \mathbf{\frac{25}{72}}$

7. $\frac{1}{6} \times 1\frac{4}{5} = \mathbf{\frac{3}{10}}$

8. $\frac{1}{8} - \frac{3}{8} = \mathbf{-\frac{1}{4}}$

9. $-2\frac{5}{6} - \frac{5}{6} = \mathbf{-3\frac{2}{3}}$

10. $3\frac{5}{8} + \frac{1}{12} = \mathbf{3\frac{17}{24}}$

11. $-\frac{13}{6} \times 3\frac{5}{6} = \mathbf{-8\frac{11}{36}}$

12. $-\frac{1}{3} \div \frac{4}{9} = \mathbf{-\frac{3}{4}}$

13. $\frac{3}{4} + \frac{1}{2} = \mathbf{1\frac{1}{4}}$

14. $\frac{5}{3} - \frac{11}{6} = \mathbf{-\frac{1}{6}}$

15. $1\frac{1}{6} + \frac{7}{10} = \mathbf{1\frac{13}{15}}$

16. $\frac{11}{6} + 2\frac{1}{5} = \mathbf{4\frac{1}{30}}$

Change mixed numbers to improper fractions first. To divide, turn the second fraction upside down and multiply.

Fractions of and as fractions

Acorn & Ink

Answers are shown in red.

Name _____ Date _____

Fractions of amounts Some of these fractions are bigger than 1.

1. $\frac{1}{5}$ of 75 = **15**
2. $\frac{1}{8}$ of 48 = **6**
3. $2\frac{1}{3}$ of 27 = **63**
4. $\frac{7}{12}$ of 168 = **98**
5. $1\frac{3}{4}$ of 24 = **42**
6. $\frac{2}{3}$ of 57 = **38**
7. $\frac{7}{9}$ of 108 = **84**
8. $1\frac{1}{3}$ of 42 = **56**
9. $2\frac{1}{2}$ of 14 = **35**
10. $\frac{3}{5}$ of 85 = **51**

Write the first amount as a fraction of the second Simplest form.

11. 135 minutes as a fraction of an hour — **$\frac{9}{4}$**
12. 21 as a fraction of 9 — **$\frac{7}{3}$**
13. 500 ml as a fraction of a litre — **$\frac{1}{2}$**
14. 30 minutes as a fraction of an hour — **$\frac{1}{2}$**
15. 55 cm as a fraction of a metre — **$\frac{11}{20}$**
16. 8 as a fraction of 20 — **$\frac{2}{5}$**
17. 250 g as a fraction of a kilogram — **$\frac{1}{4}$**
18. 190p as a fraction of £2 — **$\frac{19}{20}$**

> Make the units match first: 1 hour = 60 minutes, 1 m = 100 cm, £1 = 100p, 1 kg = 1,000 g and 1 litre = 1,000 ml.

Acorn & Ink

Fractions and decimals

Answers are shown in red.

Name _____ Date _____

Decimal to fraction Simplest form. Use an improper fraction if it's bigger than 1.

1. 0.75 = $\frac{3}{4}$
2. 0.1 = $\frac{1}{10}$
3. 1.64 = $\frac{41}{25}$
4. 0.23 = $\frac{23}{100}$
5. 0.7 = $\frac{7}{10}$
6. 0.54 = $\frac{27}{50}$
7. 0.8 = $\frac{4}{5}$
8. 2.5 = $\frac{5}{2}$
9. 0.25 = $\frac{1}{4}$
10. 0.6 = $\frac{3}{5}$

Fraction to decimal Divide the top by the bottom.

11. $\frac{329}{100}$ = 3.29
12. $\frac{1}{2}$ = 0.5
13. $\frac{3}{10}$ = 0.3
14. $\frac{19}{8}$ = 2.375
15. $\frac{1}{5}$ = 0.2
16. $\frac{13}{10}$ = 1.3
17. $\frac{9}{50}$ = 0.18
18. $\frac{9}{20}$ = 0.45
19. $\frac{17}{40}$ = 0.425
20. $\frac{7}{2}$ = 3.5

Fraction word problems

Acorn & Ink

Answers are shown in red.

Name _____ **Date** _____

1. A ribbon is $2\frac{1}{4}$ m long. Finn cuts off $\frac{7}{8}$ m. How much ribbon is left?

   $1\frac{3}{8}$ m

2. A water tank holds 80 litres when it is full. It is $\frac{7}{8}$ full. How many litres of water are in it?

   70 litres

3. Sam has read $\frac{2}{5}$ of a book. That's 26 pages. How many pages are in the whole book?

   65 pages

4. Leo runs $3\frac{1}{2}$ km and Finn runs $2\frac{5}{6}$ km. How much further does Leo run?

   $\frac{2}{3}$ km

5. $\frac{7}{8}$ of the 32 children at a swimming club can swim a length. How many children can't swim a length yet?

   4 children

6. A recipe needs $\frac{3}{4}$ of a cup of milk for one batch of pancakes. How much milk is needed for 7 batches?

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

7. A train journey takes $2\frac{2}{3}$ hours. The bus ride after it takes $\frac{1}{3}$ of an hour. How long is the whole journey?

   3 hours

8. A jug holds $\frac{1}{5}$ of a litre of juice. It is shared equally between 4 glasses. How much juice goes in each glass?

   $\frac{1}{20}$ litre