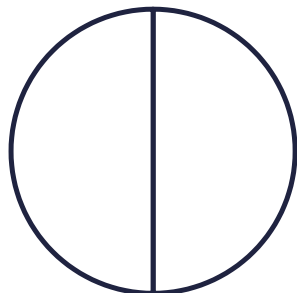


Colour the fraction

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

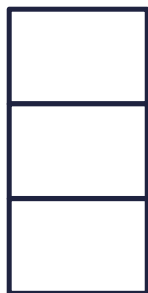
Name _____ Date _____ Score _____ / 9

Colour $\frac{1}{2}$



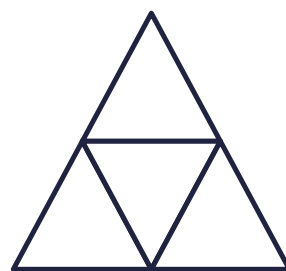
one half

Colour $\frac{1}{3}$



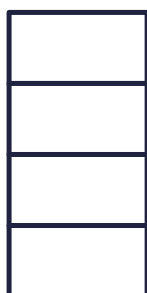
one third

Colour $\frac{1}{4}$



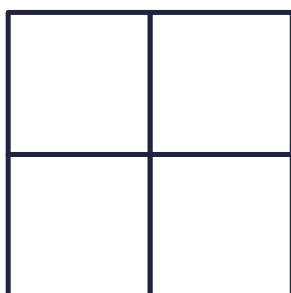
one quarter

Colour $\frac{3}{4}$



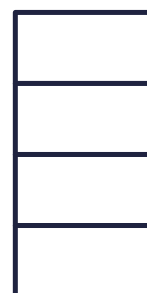
three quarters

Colour $\frac{2}{4}$



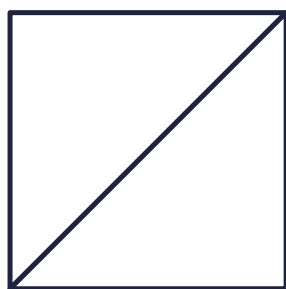
$\frac{2}{4}$ is the same as $\frac{1}{2}$

Colour $\frac{1}{4}$



one quarter

Colour $\frac{1}{2}$



one half

Colour $\frac{1}{3}$



one third

Colour $\frac{3}{4}$



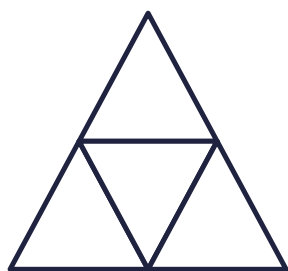
three quarters

Colour the fraction

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

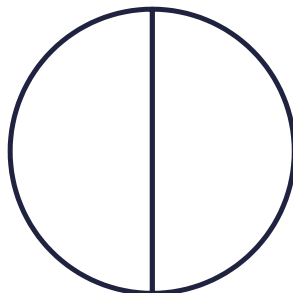
Name _____ Date _____ Score _____ / 9

Colour $\frac{2}{4}$



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

Colour $\frac{1}{2}$



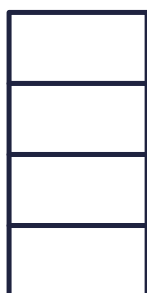
one half

Colour $\frac{1}{3}$



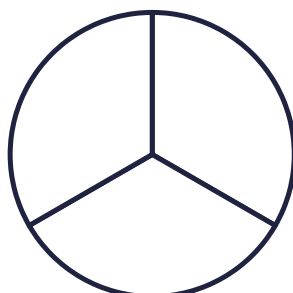
one third

Colour $\frac{1}{4}$



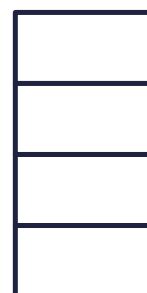
one quarter

Colour $\frac{1}{3}$



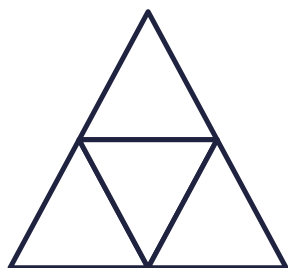
one third

Colour $\frac{3}{4}$



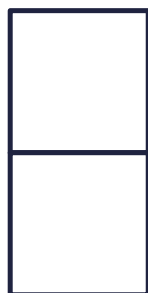
three quarters

Colour $\frac{1}{4}$



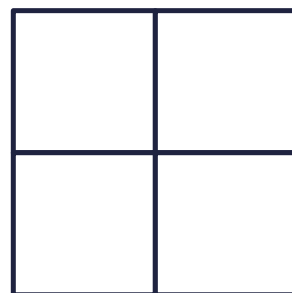
one quarter

Colour $\frac{1}{2}$



one half

Colour $\frac{3}{4}$



three quarters

Fractions of a group

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

Name _____ Date _____ Score _____ / 10

$\frac{2}{4}$ of 16 Two quarters of 16



= _____

$\frac{1}{2}$ of 8 Half of 8



= _____

$\frac{1}{3}$ of 18 A third of 18



= _____

$\frac{1}{3}$ of 6 A third of 6



= _____

$\frac{3}{4}$ of 12 Three quarters of 12



= _____

$\frac{1}{2}$ of 12 Half of 12



= _____

$\frac{1}{2}$ of 14 Half of 14



= _____

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



= _____

$\frac{1}{4}$ of 4 A quarter of 4



= _____

$\frac{3}{4}$ of 20 Three quarters of 20



= _____

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

What's the mystery picture?

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

2  dark blue
 3  black
 6  light blue
 8  red
 9  yellow

$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{4}$ of 24
$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 6	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 6	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 6	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 6	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 8	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 6	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12
$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 6	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12

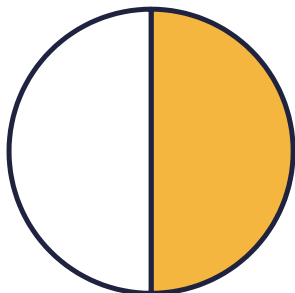
Colour the fraction

Answers are shown in red.

Name _____

Date _____

Colour $\frac{1}{2}$



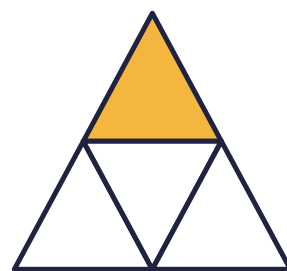
one half

Colour $\frac{1}{3}$



one third

Colour $\frac{1}{4}$



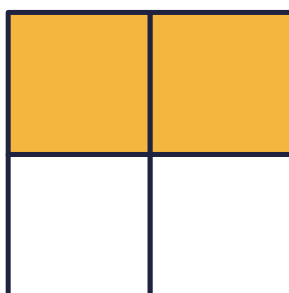
one quarter

Colour $\frac{3}{4}$



three quarters

Colour $\frac{2}{4}$



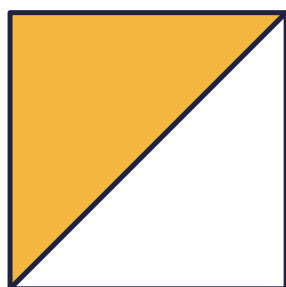
$\frac{2}{4}$ is the same as $\frac{1}{2}$

Colour $\frac{1}{4}$



one quarter

Colour $\frac{1}{2}$



one half

Colour $\frac{1}{3}$



one third

Colour $\frac{3}{4}$



three quarters

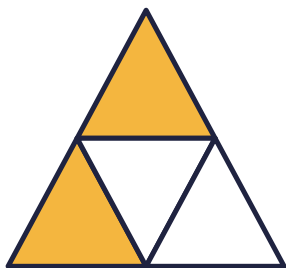
Colour the fraction

Answers are shown in red.

Name _____

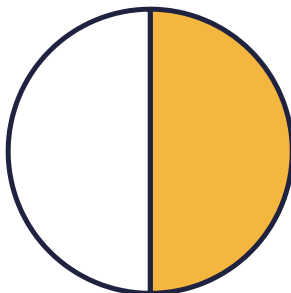
Date _____

Colour $\frac{2}{4}$



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

Colour $\frac{1}{2}$



one half

Colour $\frac{1}{3}$



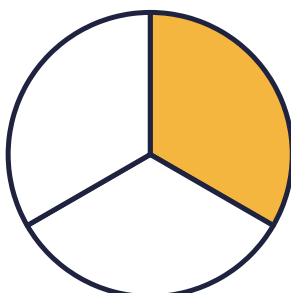
one third

Colour $\frac{1}{4}$



one quarter

Colour $\frac{1}{3}$



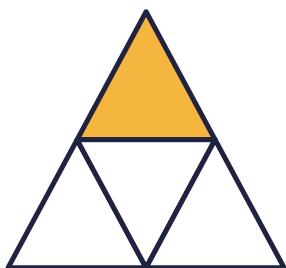
one third

Colour $\frac{3}{4}$



three quarters

Colour $\frac{1}{4}$



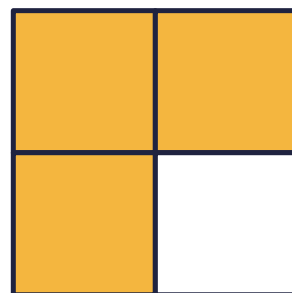
one quarter

Colour $\frac{1}{2}$



one half

Colour $\frac{3}{4}$



three quarters

Fractions of a group

Answers are shown in red.

Name _____ Date _____

$$\frac{2}{4} \text{ of } 16 \text{ Two quarters of } 16$$


$$= \underline{8}$$

$$\frac{1}{2} \text{ of } 8 \text{ Half of } 8$$


$$= \underline{4}$$

$$\frac{1}{3} \text{ of } 18 \text{ A third of } 18$$


$$= \underline{6}$$

$$\frac{1}{3} \text{ of } 6 \text{ A third of } 6$$


$$= \underline{2}$$

$$\frac{3}{4} \text{ of } 12 \text{ Three quarters of } 12$$


$$= \underline{9}$$

$$\frac{1}{2} \text{ of } 12 \text{ Half of } 12$$


$$= \underline{6}$$

$$\frac{1}{2} \text{ of } 14 \text{ Half of } 14$$


$$= \underline{7}$$

$$\frac{1}{4} \text{ of } 16 \text{ A quarter of } 16$$


$$= \underline{4}$$

$$\frac{1}{4} \text{ of } 4 \text{ A quarter of } 4$$


$$= \underline{1}$$

$$\frac{3}{4} \text{ of } 20 \text{ Three quarters of } 20$$


$$= \underline{15}$$

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

It's an umbrella in the rain!

Here's how the finished picture looks.

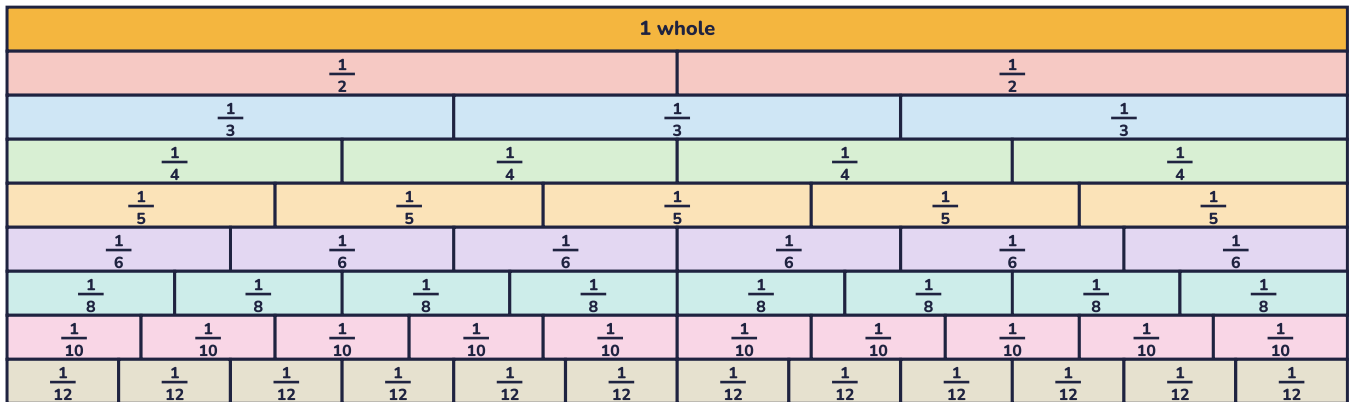
2  dark blue 3  black 6  light blue 8  red

9  yellow

$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{4}$ of 24
$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24		$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{2}$ of 18	$\frac{1}{4}$ of 36	$\frac{1}{4}$ of 32	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 32
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24		$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24		$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24		$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 4	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24		$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 8	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24		$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12
$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12		$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24		$\frac{1}{4}$ of 24		$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24
$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12		$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12
$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 8	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 12

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.

$$\frac{3}{5} \text{ of } 40: 40 \div 5 = 8, 8 \times 3 = \mathbf{24}$$

Equivalent and simplest form

Do the same to the top and the bottom.

$$\frac{2}{3} = \frac{8}{12} (\times 4) \quad \frac{18}{24} = \frac{3}{4} (\div 6)$$

Comparing

Make the bottom numbers the same.

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

Mixed numbers

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

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

Add and subtract

Same bottoms first, then the tops.

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

Multiply and divide

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

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

Working backwards

$$\frac{1}{4} \text{ is } 9, \text{ so the whole is } 9 \times 4 = \mathbf{36}$$

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

Watch out

Never add the bottom numbers.

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

Fractions, decimals and percentages

$$\frac{1}{2} = 0.5 = \mathbf{50\%}$$

$$\frac{1}{4} = 0.25 = \mathbf{25\%}$$

$$\frac{3}{4} = 0.75 = \mathbf{75\%}$$

$$\frac{1}{5} = 0.2 = \mathbf{20\%}$$

$$\frac{1}{10} = 0.1 = \mathbf{10\%}$$

$$\frac{1}{8} = 0.125 = \mathbf{12.5\%}$$

$$\frac{3}{8} = 0.375 = \mathbf{37.5\%}$$

$$\frac{1}{100} = 0.01 = \mathbf{1\%}$$

Shade the fraction

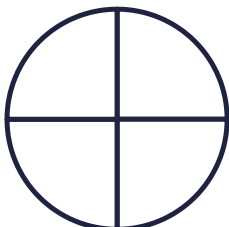
Colour the fraction shown, or write the fraction that is coloured.

Name _____

Date _____

Score _____ / 12

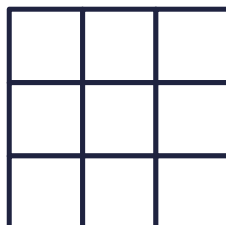
Colour $\frac{1}{4}$



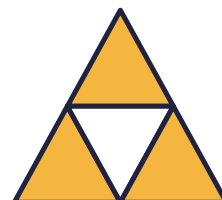
What fraction is coloured?



Colour $\frac{2}{9}$



What fraction is coloured?



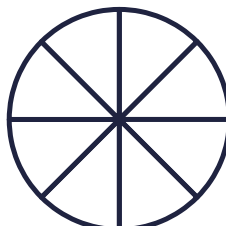
Colour $\frac{5}{6}$



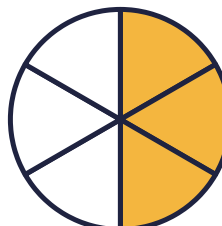
What fraction is coloured?



Colour $\frac{3}{8}$



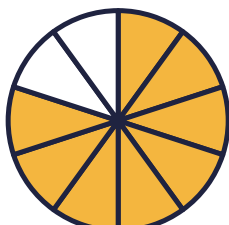
What fraction is coloured?



Colour $\frac{4}{5}$



What fraction is coloured?



Colour $\frac{1}{6}$



What fraction is coloured?

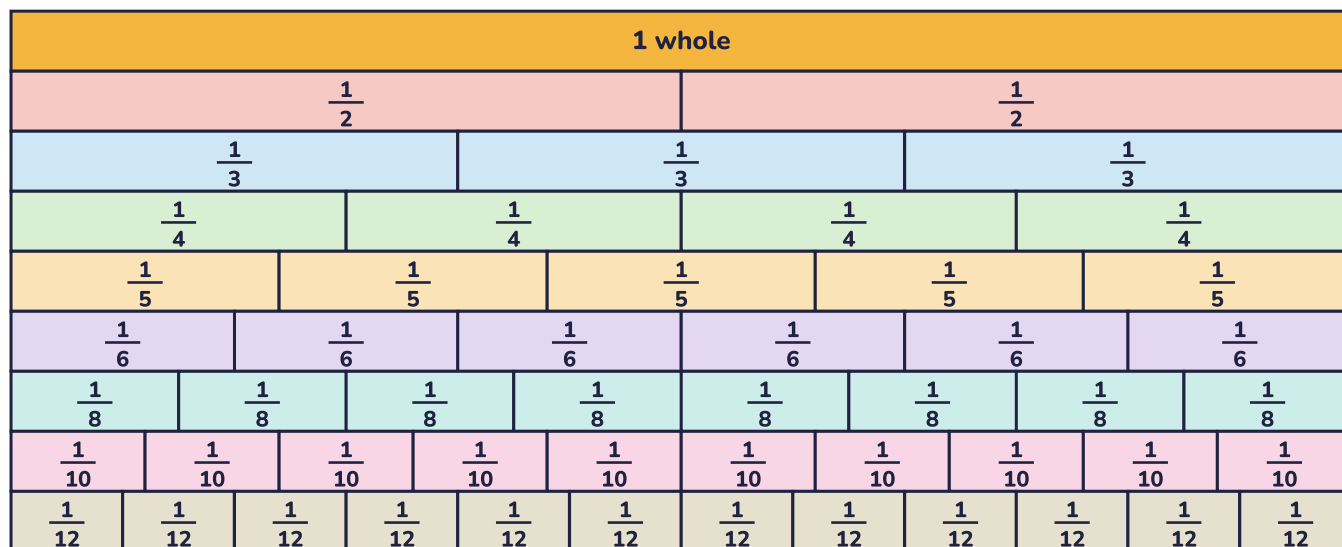


Count all the equal parts for the bottom number. Count the coloured parts for the top number.

Equivalent fractions

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

Name _____ Date _____ Score _____ / 12



1. $\frac{4}{6} = \frac{\boxed{}}{3}$

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

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

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

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

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

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

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

9. $\frac{1}{5} = \frac{\boxed{}}{10}$

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

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

12. $\frac{2}{5} = \frac{4}{\boxed{}}$

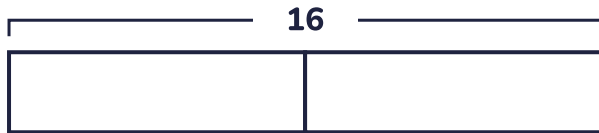
Fractions of amounts

Find each fraction of the amount.

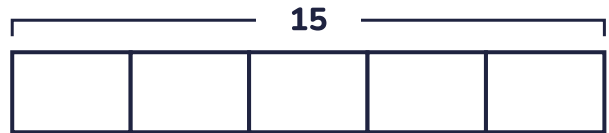
Name _____ Date _____ Score _____ / 16

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

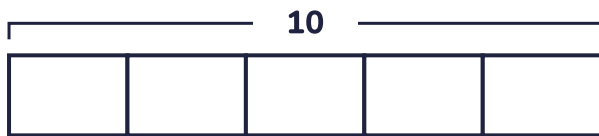
$$\frac{1}{2} \text{ of } 16 = \underline{\hspace{2cm}}$$



$$\frac{2}{5} \text{ of } 15 = \underline{\hspace{2cm}}$$



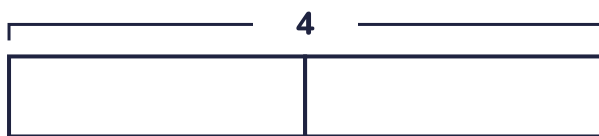
$$\frac{3}{5} \text{ of } 10 = \underline{\hspace{2cm}}$$



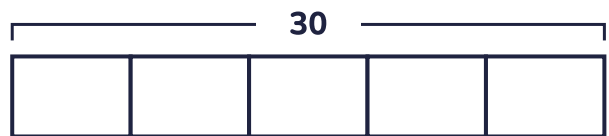
$$\frac{1}{3} \text{ of } 18 = \underline{\hspace{2cm}}$$



$$\frac{1}{2} \text{ of } 4 = \underline{\hspace{2cm}}$$



$$\frac{1}{5} \text{ of } 30 = \underline{\hspace{2cm}}$$



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

1. $\frac{1}{2}$ of 12 = _____

2. $\frac{1}{10}$ of 40 = _____

3. $\frac{1}{6}$ of 66 = _____

4. $\frac{1}{2}$ of 10 = _____

5. $\frac{1}{2}$ of 18 = _____

6. $\frac{1}{8}$ of 56 = _____

7. $\frac{1}{4}$ of 44 = _____

8. $\frac{1}{10}$ of 30 = _____

9. $\frac{1}{10}$ of 120 = _____

10. $\frac{1}{3}$ of 33 = _____

Add and subtract fractions

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

Name _____

Date _____

Score _____ / 12

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

--	--	--	--	--

2. $\frac{2}{5} + \frac{2}{5} =$

--	--	--	--	--

3. $\frac{5}{11} - \frac{3}{11} =$

--	--	--	--	--	--	--	--	--	--

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

--	--	--	--	--	--	--	--	--

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

--	--	--	--	--	--

6. $\frac{8}{10} - \frac{1}{10} =$

--	--	--	--	--	--	--	--	--	--

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

--	--	--	--	--	--	--	--	--	--	--

8. $\frac{3}{9} - \frac{2}{9} =$

--	--	--	--	--	--	--	--	--

9. $\frac{9}{11} - \frac{1}{11} =$

--	--	--	--	--	--	--	--	--	--

10. $\frac{3}{4} - \frac{1}{4} =$

--	--	--	--

11. $\frac{6}{9} - \frac{2}{9} =$

--	--	--	--	--	--	--	--	--

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

--	--	--	--	--	--

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

Compare and order

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. $\frac{1}{10}$ ○ $\frac{1}{11}$

2. $\frac{1}{5}$ ○ $\frac{3}{5}$

3. $\frac{4}{7}$ ○ $\frac{6}{7}$

4. $\frac{3}{12}$ ○ $\frac{6}{12}$

5. $\frac{1}{2}$ ○ $\frac{1}{3}$

6. $\frac{4}{7}$ ○ $\frac{2}{7}$

7. $\frac{8}{11}$ ○ $\frac{5}{11}$

8. $\frac{1}{8}$ ○ $\frac{1}{5}$

9. $\frac{1}{2}$ ○ $\frac{1}{7}$

10. $\frac{6}{9}$ ○ $\frac{4}{9}$

11. $\frac{1}{6}$ ○ $\frac{1}{3}$

12. $\frac{1}{10}$ ○ $\frac{1}{12}$

Put them in order Smallest first.

$\frac{1}{5}$ $\frac{1}{6}$ $\frac{1}{12}$ $\frac{1}{2}$

--	--	--	--

$\frac{7}{8}$ $\frac{2}{8}$ $\frac{1}{8}$ $\frac{4}{8}$

--	--	--	--

$\frac{1}{10}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{3}$

--	--	--	--

$\frac{6}{10}$ $\frac{4}{10}$ $\frac{2}{10}$ $\frac{9}{10}$

--	--	--	--

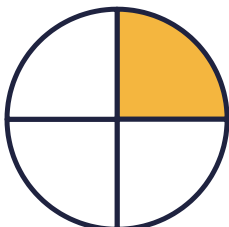
Shade the fraction

Answers are shown in red.

Name _____

Date _____

Colour $\frac{1}{4}$

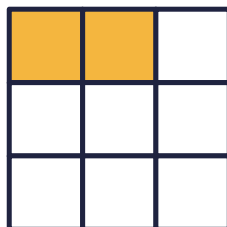


What fraction is coloured?

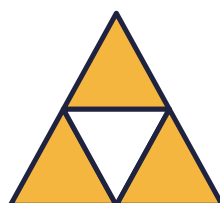


$\frac{2}{4}$

Colour $\frac{2}{9}$



What fraction is coloured?



$\frac{3}{4}$

Colour $\frac{5}{6}$

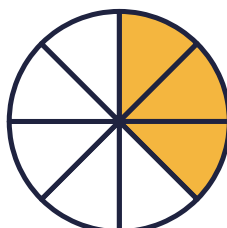


What fraction is coloured?

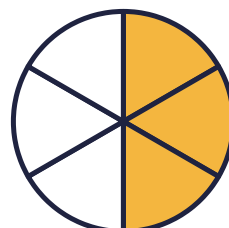


$\frac{2}{3}$

Colour $\frac{3}{8}$



What fraction is coloured?

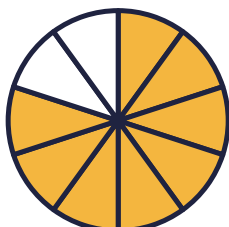


$\frac{3}{6}$

Colour $\frac{4}{5}$

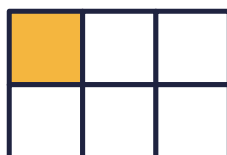


What fraction is coloured?



$\frac{8}{10}$

Colour $\frac{1}{6}$



What fraction is coloured?



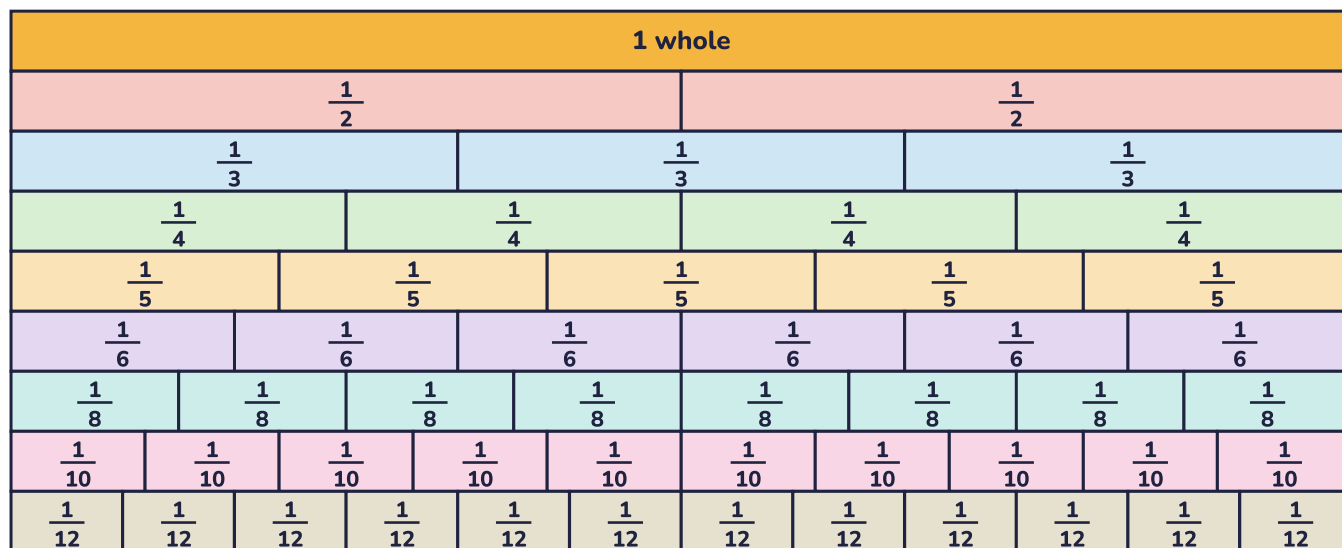
$\frac{4}{8}$

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

Equivalent fractions

Answers are shown in red.

Name _____ Date _____



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

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

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

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

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

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

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

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

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

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

11. $\frac{6}{8} = \frac{\boxed{9}}{12}$

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

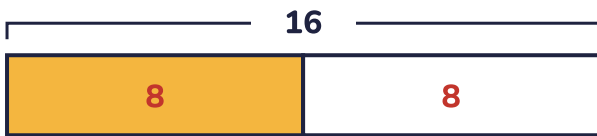
Fractions of amounts

Answers are shown in red.

Name _____ Date _____

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

$$\frac{1}{2} \text{ of } 16 = \underline{8}$$



$$\frac{2}{5} \text{ of } 15 = \underline{6}$$



$$\frac{3}{5} \text{ of } 10 = \underline{6}$$



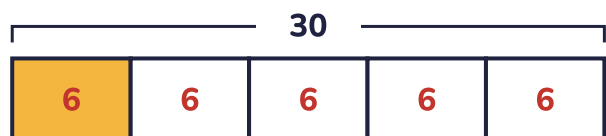
$$\frac{1}{3} \text{ of } 18 = \underline{6}$$



$$\frac{1}{2} \text{ of } 4 = \underline{2}$$



$$\frac{1}{5} \text{ of } 30 = \underline{6}$$



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

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

2. $\frac{1}{10}$ of 40 = 4

3. $\frac{1}{6}$ of 66 = 11

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

5. $\frac{1}{2}$ of 18 = 9

6. $\frac{1}{8}$ of 56 = 7

7. $\frac{1}{4}$ of 44 = 11

8. $\frac{1}{10}$ of 30 = 3

9. $\frac{1}{10}$ of 120 = 12

10. $\frac{1}{3}$ of 33 = 11

Add and subtract fractions

Answers are shown in red.

Name _____ Date _____

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



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



3. $\frac{5}{11} - \frac{3}{11} = \frac{2}{11}$



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



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



6. $\frac{8}{10} - \frac{1}{10} = \frac{7}{10}$



7. $\frac{4}{12} + \frac{6}{12} = \frac{10}{12}$



8. $\frac{3}{9} - \frac{2}{9} = \frac{1}{9}$



9. $\frac{9}{11} - \frac{1}{11} = \frac{8}{11}$



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



11. $\frac{6}{9} - \frac{2}{9} = \frac{4}{9}$



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



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

Compare and order

Answers are shown in red.

Name _____ Date _____

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

1. $\frac{1}{10}$  $\frac{1}{11}$

2. $\frac{1}{5}$  $\frac{3}{5}$

3. $\frac{4}{7}$  $\frac{6}{7}$

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

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

6. $\frac{4}{7}$  $\frac{2}{7}$

7. $\frac{8}{11}$  $\frac{5}{11}$

8. $\frac{1}{8}$  $\frac{1}{5}$

9. $\frac{1}{2}$  $\frac{1}{7}$

10. $\frac{6}{9}$  $\frac{4}{9}$

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

12. $\frac{1}{10}$  $\frac{1}{12}$

Put them in order Smallest first.

$\frac{1}{5}$ $\frac{1}{6}$ $\frac{1}{12}$ $\frac{1}{2}$

$\frac{7}{8}$ $\frac{2}{8}$ $\frac{1}{8}$ $\frac{4}{8}$

$\frac{1}{10}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{3}$

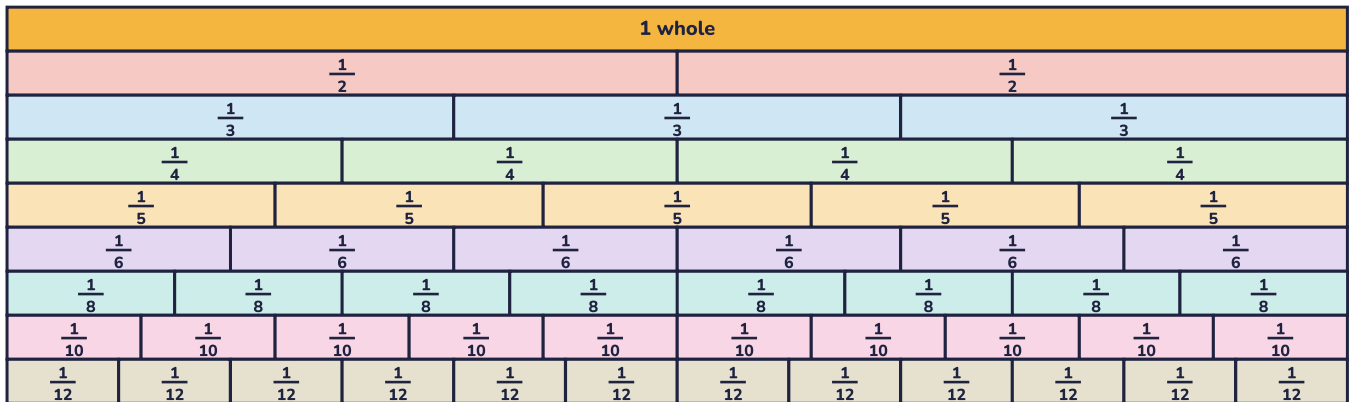
   

$\frac{6}{10}$ $\frac{4}{10}$ $\frac{2}{10}$ $\frac{9}{10}$

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.

$$\frac{3}{5} \text{ of } 40: 40 \div 5 = 8, 8 \times 3 = \mathbf{24}$$

Equivalent and simplest form

Do the same to the top and the bottom.

$$\frac{2}{3} = \frac{8}{12} (\times 4) \quad \frac{18}{24} = \frac{3}{4} (\div 6)$$

Comparing

Make the bottom numbers the same.

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

Mixed numbers

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

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

Add and subtract

Same bottoms first, then the tops.

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

Multiply and divide

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

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

Working backwards

$$\frac{1}{4} \text{ is } 9, \text{ so the whole is } 9 \times 4 = \mathbf{36}$$

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

Watch out

Never add the bottom numbers.

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

Fractions, decimals and percentages

$$\frac{1}{2} = 0.5 = \mathbf{50\%}$$

$$\frac{1}{4} = 0.25 = \mathbf{25\%}$$

$$\frac{3}{4} = 0.75 = \mathbf{75\%}$$

$$\frac{1}{5} = 0.2 = \mathbf{20\%}$$

$$\frac{1}{10} = 0.1 = \mathbf{10\%}$$

$$\frac{1}{8} = 0.125 = \mathbf{12.5\%}$$

$$\frac{3}{8} = 0.375 = \mathbf{37.5\%}$$

$$\frac{1}{100} = 0.01 = \mathbf{1\%}$$

Equivalent fractions and simplifying

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

Name _____

Date _____

Score _____ / 18

Find the missing number

1. $\frac{7}{10} = \frac{\boxed{}}{100}$

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

3. $\frac{1}{5} = \frac{\boxed{}}{40}$

4. $\frac{5}{12} = \frac{\boxed{}}{96}$

5. $\frac{27}{45} = \frac{\boxed{}}{5}$

6. $\frac{3}{4} = \frac{15}{\boxed{}}$

7. $\frac{1}{4} = \frac{10}{\boxed{}}$

8. $\frac{4}{25} = \frac{\boxed{}}{100}$

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

9. $\frac{3}{12} = \boxed{}$

10. $\frac{40}{70} = \boxed{}$

11. $\frac{55}{88} = \boxed{}$

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

13. $\frac{6}{12} = \boxed{}$

14. $\frac{55}{132} = \boxed{}$

15. $\frac{60}{108} = \boxed{}$

16. $\frac{55}{99} = \boxed{}$

17. $\frac{44}{55} = \boxed{}$

18. $\frac{4}{18} = \boxed{}$

Mixed numbers

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. $\frac{33}{8} =$

2. $\frac{17}{3} =$

3. $\frac{16}{9} =$

4. $\frac{23}{10} =$

5. $\frac{49}{12} =$

6. $\frac{53}{9} =$

7. $\frac{65}{11} =$

8. $\frac{22}{5} =$

Mixed number to improper fraction

 Wholes × bottom number, then add the top.

9. $4\frac{7}{11} =$

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

11. $4\frac{6}{7} =$

12. $4\frac{9}{11} =$

13. $5\frac{1}{6} =$

14. $5\frac{1}{11} =$

15. $2\frac{1}{6} =$

16. $5\frac{1}{2} =$

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

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

3. $\frac{5}{6} - \frac{11}{18} =$

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

5. $\frac{4}{5} - \frac{7}{10} =$

6. $\frac{7}{15} - \frac{2}{5} =$

Different bottom numbers

7. $\frac{4}{7} + \frac{2}{3} =$

8. $\frac{2}{5} + \frac{2}{3} =$

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

10. $\frac{1}{3} + \frac{4}{5} =$

11. $\frac{1}{4} + \frac{7}{9} =$

12. $\frac{3}{7} + \frac{3}{5} =$

Mixed numbers

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

14. $3\frac{7}{8} + 1\frac{1}{3} =$

15. $2\frac{5}{8} + 2\frac{1}{3} =$

16. $2\frac{1}{6} + 2\frac{2}{3} =$

Multiply and divide

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

Name _____ Date _____ Score _____ / 16

Multiply by a whole number

1. $\frac{5}{9} \times 4 =$

2. $\frac{1}{3} \times 5 =$

3. $2\frac{2}{5} \times 4 =$

4. $\frac{5}{6} \times 5 =$

5. $1\frac{1}{2} \times 4 =$

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

Multiply two fractions

 Tops times tops, bottoms times bottoms.

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

8. $\frac{1}{3} \times \frac{1}{6} =$

9. $\frac{1}{4} \times \frac{4}{5} =$

10. $\frac{3}{4} \times \frac{3}{4} =$

11. $\frac{2}{3} \times \frac{1}{5} =$

12. $\frac{1}{2} \times \frac{3}{4} =$

Divide by a whole number

13. $\frac{2}{3} \div 4 =$

14. $\frac{5}{6} \div 3 =$

15. $\frac{3}{5} \div 2 =$

16. $\frac{3}{4} \div 5 =$

Fractions of amounts

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

Name _____

Date _____

Score _____ / 16

1. $\frac{1}{5}$ of 25 = _____

2. $\frac{3}{10}$ of 230 = _____

3. $\frac{1}{5}$ of 125 = _____

4. $\frac{5}{7}$ of 126 = _____

5. $\frac{1}{6}$ of 30 = _____

6. $\frac{5}{8}$ of 40 = _____

7. $\frac{1}{3}$ of 42 = _____

8. $\frac{1}{10}$ of 30 = _____

9. $\frac{5}{6}$ of 36 = _____

10. $\frac{3}{7}$ of 21 = _____

11. $\frac{3}{4}$ of 68 = _____

12. $\frac{4}{9}$ of 153 = _____

Working backwards Find one part first, then the whole.

13. $\frac{1}{3}$ of a number is 10. What is the number? _____

14. A bottle is $\frac{1}{8}$ full. It has 15 ml of water in it. How much does the full bottle hold? _____

15. $\frac{1}{3}$ of a ribbon is 8 cm long. How long is the whole ribbon? _____

16. Zara has read $\frac{1}{3}$ of a book. That's 12 pages. How many pages are in the book? _____

Fractions, decimals and percentages

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

Name _____ Date _____ Score _____ / 20

Fraction	Decimal	Percentage
	_____	84%
	_____	1%
	0.4	_____
$\frac{11}{20}$	_____	_____
$\frac{3}{20}$	_____	_____
$\frac{3}{5}$	_____	_____
$\frac{5}{8}$	_____	_____
	0.45	_____
	_____	49%
	0.8	_____

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

Equivalent fractions and simplifying

Answers are shown in red.

Name _____

Date _____

Find the missing number

1. $\frac{7}{10} = \frac{\boxed{70}}{100}$

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

3. $\frac{1}{5} = \frac{\boxed{8}}{40}$

4. $\frac{5}{12} = \frac{\boxed{40}}{96}$

5. $\frac{27}{45} = \frac{\boxed{3}}{5}$

6. $\frac{3}{4} = \frac{15}{\boxed{20}}$

7. $\frac{1}{4} = \frac{10}{\boxed{40}}$

8. $\frac{4}{25} = \frac{\boxed{16}}{100}$

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

9. $\frac{3}{12} = \frac{\boxed{1}}{\boxed{4}}$

10. $\frac{40}{70} = \frac{\boxed{4}}{\boxed{7}}$

11. $\frac{55}{88} = \frac{\boxed{5}}{\boxed{8}}$

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

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

14. $\frac{55}{132} = \frac{\boxed{5}}{\boxed{12}}$

15. $\frac{60}{108} = \frac{\boxed{5}}{\boxed{9}}$

16. $\frac{55}{99} = \frac{\boxed{5}}{\boxed{9}}$

17. $\frac{44}{55} = \frac{\boxed{4}}{\boxed{5}}$

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

Mixed numbers

Answers are shown in red.

Name _____ Date _____

Improper fraction to mixed number

 How many wholes? What is left over?

1. $\frac{33}{8} = 4\frac{1}{8}$

2. $\frac{17}{3} = 5\frac{2}{3}$

3. $\frac{16}{9} = 1\frac{7}{9}$

4. $\frac{23}{10} = 2\frac{3}{10}$

5. $\frac{49}{12} = 4\frac{1}{12}$

6. $\frac{53}{9} = 5\frac{8}{9}$

7. $\frac{65}{11} = 5\frac{10}{11}$

8. $\frac{22}{5} = 4\frac{2}{5}$

Mixed number to improper fraction

 Wholes × bottom number, then add the top.

9. $4\frac{7}{11} = \frac{51}{11}$

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

11. $4\frac{6}{7} = \frac{34}{7}$

12. $4\frac{9}{11} = \frac{53}{11}$

13. $5\frac{1}{6} = \frac{31}{6}$

14. $5\frac{1}{11} = \frac{56}{11}$

15. $2\frac{1}{6} = \frac{13}{6}$

16. $5\frac{1}{2} = \frac{11}{2}$

Add and subtract fractions

Answers are shown in red.

Name _____ Date _____

One bottom number fits into the other

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

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

3. $\frac{5}{6} - \frac{11}{18} = \boxed{\frac{2}{9}}$

4. $\frac{1}{4} + \frac{1}{8} = \boxed{\frac{3}{8}}$

5. $\frac{4}{5} - \frac{7}{10} = \boxed{\frac{1}{10}}$

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

Different bottom numbers

7. $\frac{4}{7} + \frac{2}{3} = \boxed{1\frac{5}{21}}$

8. $\frac{2}{5} + \frac{2}{3} = \boxed{1\frac{1}{15}}$

9. $\frac{2}{3} - \frac{3}{7} = \boxed{\frac{5}{21}}$

10. $\frac{1}{3} + \frac{4}{5} = \boxed{1\frac{2}{15}}$

11. $\frac{1}{4} + \frac{7}{9} = \boxed{1\frac{1}{36}}$

12. $\frac{3}{7} + \frac{3}{5} = \boxed{1\frac{1}{35}}$

Mixed numbers

13. $1\frac{1}{4} + 3\frac{3}{4} = \boxed{5}$

14. $3\frac{7}{8} + 1\frac{1}{3} = \boxed{5\frac{5}{24}}$

15. $2\frac{5}{8} + 2\frac{1}{3} = \boxed{4\frac{23}{24}}$

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

Multiply and divide

Answers are shown in red.

Name _____ Date _____

Multiply by a whole number

1. $\frac{5}{9} \times 4 = 2\frac{2}{9}$

2. $\frac{1}{3} \times 5 = 1\frac{2}{3}$

3. $2\frac{2}{5} \times 4 = 9\frac{3}{5}$

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

5. $1\frac{1}{2} \times 4 = 6$

6. $3\frac{1}{5} \times 4 = 12\frac{4}{5}$

Multiply two fractions

Tops times tops, bottoms times bottoms.

7. $\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$

8. $\frac{1}{3} \times \frac{1}{6} = \frac{1}{18}$

9. $\frac{1}{4} \times \frac{4}{5} = \frac{1}{5}$

10. $\frac{3}{4} \times \frac{3}{4} = \frac{9}{16}$

11. $\frac{2}{3} \times \frac{1}{5} = \frac{2}{15}$

12. $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$

Divide by a whole number

13. $\frac{2}{3} \div 4 = \frac{1}{6}$

14. $\frac{5}{6} \div 3 = \frac{5}{18}$

15. $\frac{3}{5} \div 2 = \frac{3}{10}$

16. $\frac{3}{4} \div 5 = \frac{3}{20}$

Fractions of amounts

Answers are shown in red.

Name _____ Date _____

1. $\frac{1}{5}$ of 25 = 5

2. $\frac{3}{10}$ of 230 = 69

3. $\frac{1}{5}$ of 125 = 25

4. $\frac{5}{7}$ of 126 = 90

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

6. $\frac{5}{8}$ of 40 = 25

7. $\frac{1}{3}$ of 42 = 14

8. $\frac{1}{10}$ of 30 = 3

9. $\frac{5}{6}$ of 36 = 30

10. $\frac{3}{7}$ of 21 = 9

11. $\frac{3}{4}$ of 68 = 51

12. $\frac{4}{9}$ of 153 = 68

Working backwards Find one part first, then the whole.

13. $\frac{1}{3}$ of a number is 10. What is the number? 30

14. A bottle is $\frac{1}{8}$ full. It has 15 ml of water in it. How much does the full bottle hold? 120 ml

15. $\frac{1}{3}$ of a ribbon is 8 cm long. How long is the whole ribbon? 24 cm

16. Zara has read $\frac{1}{3}$ of a book. That's 12 pages. How many pages are in the book? 36 pages

Fractions, decimals and percentages

Answers are shown in red.

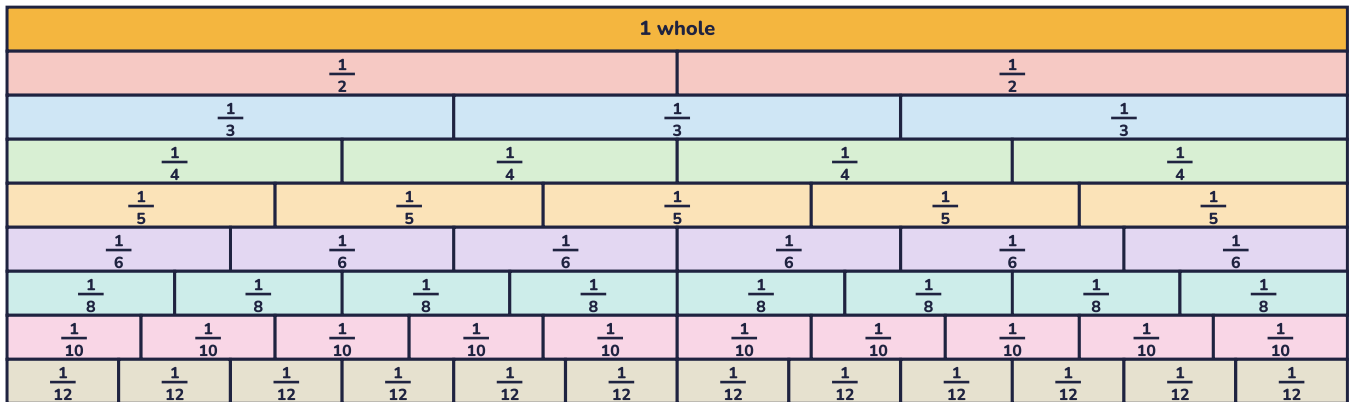
Name _____ Date _____

Fraction	Decimal	Percentage
$\frac{21}{25}$	<u>0.84</u>	84%
$\frac{1}{100}$	<u>0.01</u>	1%
$\frac{2}{5}$	0.4	<u>40%</u>
$\frac{11}{20}$	<u>0.55</u>	<u>55%</u>
$\frac{3}{20}$	<u>0.15</u>	<u>15%</u>
$\frac{3}{5}$	<u>0.6</u>	<u>60%</u>
$\frac{5}{8}$	<u>0.625</u>	<u>62.5%</u>
$\frac{9}{20}$	0.45	<u>45%</u>
$\frac{49}{100}$	<u>0.49</u>	49%
$\frac{4}{5}$	0.8	<u>80%</u>

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

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.

$$\frac{3}{5} \text{ of } 40: 40 \div 5 = 8, 8 \times 3 = \mathbf{24}$$

Equivalent and simplest form

Do the same to the top and the bottom.

$$\frac{2}{3} = \frac{8}{12} (\times 4) \quad \frac{18}{24} = \frac{3}{4} (\div 6)$$

Comparing

Make the bottom numbers the same.

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

Mixed numbers

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

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

Add and subtract

Same bottoms first, then the tops.

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

Multiply and divide

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

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

Working backwards

$$\frac{1}{4} \text{ is } 9, \text{ so the whole is } 9 \times 4 = \mathbf{36}$$

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

Watch out

Never add the bottom numbers.

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

Fractions, decimals and percentages

$$\frac{1}{2} = 0.5 = \mathbf{50\%}$$

$$\frac{1}{4} = 0.25 = \mathbf{25\%}$$

$$\frac{3}{4} = 0.75 = \mathbf{75\%}$$

$$\frac{1}{5} = 0.2 = \mathbf{20\%}$$

$$\frac{1}{10} = 0.1 = \mathbf{10\%}$$

$$\frac{1}{8} = 0.125 = \mathbf{12.5\%}$$

$$\frac{3}{8} = 0.375 = \mathbf{37.5\%}$$

$$\frac{1}{100} = 0.01 = \mathbf{1\%}$$

The four operations

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

Name _____

Date _____

Score _____ / 16

1. $\frac{23}{8} + \frac{3}{4} =$

2. $\frac{1}{4} + \frac{9}{4} =$

3. $-\frac{9}{7} + 1\frac{2}{3} =$

4. $\frac{13}{6} \div \frac{17}{6} =$

5. $1\frac{1}{6} \div \frac{7}{3} =$

6. $1\frac{2}{3} \div \frac{17}{8} =$

7. $3\frac{1}{5} - 2\frac{7}{8} =$

8. $-2\frac{1}{4} - 2\frac{3}{5} =$

9. $\frac{15}{8} \times \frac{3}{4} =$

10. $\frac{5}{6} + \frac{9}{10} =$

11. $\frac{1}{10} \times \frac{1}{2} =$

12. $1\frac{1}{3} - 3\frac{2}{3} =$

13. $2\frac{1}{4} - \frac{1}{2} =$

14. $\frac{1}{2} \div \frac{9}{4} =$

15. $\frac{13}{6} \times \frac{2}{7} =$

16. $-1\frac{1}{4} \times \frac{5}{7} =$

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. $\frac{1}{3}$ of 48 = _____

2. $\frac{9}{4}$ of 68 = _____

3. $\frac{1}{6}$ of 108 = _____

4. $\frac{11}{4}$ of 8 = _____

5. $\frac{3}{4}$ of 32 = _____

6. $\frac{7}{3}$ of 15 = _____

7. $\frac{3}{4}$ of 36 = _____

8. $\frac{4}{9}$ of 99 = _____

9. $\frac{1}{6}$ of 90 = _____

10. $\frac{17}{6}$ of 54 = _____

Write the first amount as a fraction of the second

Simplest form.

11. 165 minutes as a fraction of an hour

12. 1,500 ml as a fraction of a litre

13. 35 as a fraction of 60

14. 75 cm as a fraction of a metre

15. 25 minutes as a fraction of an hour

16. 25 as a fraction of 12

17. 70p as a fraction of £2

18. 600 g as a fraction of a kilogram

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.

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. $0.5 =$

2. $0.325 =$

3. $2.87 =$

4. $0.1 =$

5. $1.68 =$

6. $3.55 =$

7. $0.25 =$

8. $0.97 =$

9. $3.5 =$

10. $0.05 =$

Fraction to decimal Divide the top by the bottom.

11. $\frac{7}{40} =$ _____

12. $\frac{7}{10} =$ _____

13. $\frac{37}{50} =$ _____

14. $\frac{1}{100} =$ _____

15. $\frac{19}{50} =$ _____

16. $\frac{31}{40} =$ _____

17. $\frac{4}{5} =$ _____

18. $\frac{77}{100} =$ _____

19. $\frac{39}{25} =$ _____

20. $\frac{33}{20} =$ _____

Fraction word problems

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

Name _____ Date _____ Score _____ / 8

1. A bag holds $3\frac{3}{4}$ kg of rice. How many $\frac{3}{4}$ kg portions can be made from it?

2. A train journey takes $1\frac{3}{4}$ hours. The bus ride after it takes $\frac{1}{6}$ of an hour. How long is the whole journey?

3. A ribbon is $3\frac{2}{3}$ m long. Isla cuts off $\frac{1}{6}$ m. How much ribbon is left?

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

5. Sam runs $2\frac{2}{3}$ km and Priya runs $1\frac{2}{3}$ km. How much further does Sam run?

6. A water tank holds 190 litres when it is full. It is $\frac{9}{10}$ full. How many litres of water are in it?

7. $\frac{2}{3}$ of the 21 children at a swimming club can swim a length. How many children can't swim a length yet?

8. Isla has read $\frac{2}{5}$ of a book. That's 34 pages. How many pages are in the whole book?

The four operations

Answers are shown in red.

Name _____ Date _____

1. $\frac{23}{8} + \frac{3}{4} = 3\frac{5}{8}$

2. $\frac{1}{4} + \frac{9}{4} = 2\frac{1}{2}$

3. $-\frac{9}{7} + 1\frac{2}{3} = \frac{8}{21}$

4. $\frac{13}{6} \div \frac{17}{6} = \frac{13}{17}$

5. $1\frac{1}{6} \div \frac{7}{3} = \frac{1}{2}$

6. $1\frac{2}{3} \div \frac{17}{8} = \frac{40}{51}$

7. $3\frac{1}{5} - 2\frac{7}{8} = \frac{13}{40}$

8. $-2\frac{1}{4} - 2\frac{3}{5} = -4\frac{17}{20}$

9. $\frac{15}{8} \times \frac{3}{4} = 1\frac{13}{32}$

10. $\frac{5}{6} + \frac{9}{10} = 1\frac{11}{15}$

11. $\frac{1}{10} \times \frac{1}{2} = \frac{1}{20}$

12. $1\frac{1}{3} - 3\frac{2}{3} = -2\frac{1}{3}$

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

14. $\frac{1}{2} \div \frac{9}{4} = \frac{2}{9}$

15. $\frac{13}{6} \times \frac{2}{7} = \frac{13}{21}$

16. $-1\frac{1}{4} \times \frac{5}{7} = -\frac{25}{28}$

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

Fractions of and as fractions

Answers are shown in red.

Name _____ Date _____

Fractions of amounts

Some of these fractions are bigger than 1.

1. $\frac{1}{3}$ of 48 = 16

2. $\frac{9}{4}$ of 68 = 153

3. $\frac{1}{6}$ of 108 = 18

4. $\frac{11}{4}$ of 8 = 22

5. $\frac{3}{4}$ of 32 = 24

6. $\frac{7}{3}$ of 15 = 35

7. $\frac{3}{4}$ of 36 = 27

8. $\frac{4}{9}$ of 99 = 44

9. $\frac{1}{6}$ of 90 = 15

10. $\frac{17}{6}$ of 54 = 153

Write the first amount as a fraction of the second

Simplest form.

11. 165 minutes as a fraction of an hour

$$\frac{11}{4}$$

12. 1,500 ml as a fraction of a litre

$$\frac{3}{2}$$

13. 35 as a fraction of 60

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

14. 75 cm as a fraction of a metre

$$\frac{3}{4}$$

15. 25 minutes as a fraction of an hour

$$\frac{5}{12}$$

16. 25 as a fraction of 12

$$\frac{25}{12}$$

17. 70p as a fraction of £2

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

18. 600 g as a fraction of a kilogram

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

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.

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. $0.5 = \frac{1}{2}$

2. $0.325 = \frac{13}{40}$

3. $2.87 = \frac{287}{100}$

4. $0.1 = \frac{1}{10}$

5. $1.68 = \frac{42}{25}$

6. $3.55 = \frac{71}{20}$

7. $0.25 = \frac{1}{4}$

8. $0.97 = \frac{97}{100}$

9. $3.5 = \frac{7}{2}$

10. $0.05 = \frac{1}{20}$

Fraction to decimal Divide the top by the bottom.

11. $\frac{7}{40} = 0.175$

12. $\frac{7}{10} = 0.7$

13. $\frac{37}{50} = 0.74$

14. $\frac{1}{100} = 0.01$

15. $\frac{19}{50} = 0.38$

16. $\frac{31}{40} = 0.775$

17. $\frac{4}{5} = 0.8$

18. $\frac{77}{100} = 0.77$

19. $\frac{39}{25} = 1.56$

20. $\frac{33}{20} = 1.65$

Fraction word problems

Answers are shown in red.

Name _____

Date _____

1. A bag holds $3\frac{3}{4}$ kg of rice. How many $\frac{3}{4}$ kg portions can be made from it?

5 portions

2. A train journey takes $1\frac{3}{4}$ hours. The bus ride after it takes $\frac{1}{6}$ of an hour. How long is the whole journey?

$1\frac{11}{12}$ hours

3. A ribbon is $3\frac{2}{3}$ m long. Isla cuts off $\frac{1}{6}$ m. How much ribbon is left?

$3\frac{1}{2}$ m

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

$\frac{1}{16}$ litre

5. Sam runs $2\frac{2}{3}$ km and Priya runs $1\frac{2}{3}$ km. How much further does Sam run?

1 km

6. A water tank holds 190 litres when it is full. It is $\frac{9}{10}$ full. How many litres of water are in it?

171 litres

7. $\frac{2}{3}$ of the 21 children at a swimming club can swim a length. How many children can't swim a length yet?

7 children

8. Isla has read $\frac{2}{5}$ of a book. That's 34 pages. How many pages are in the whole book?

85 pages