

FRACTIONS



FRACTIONS SUMMARY

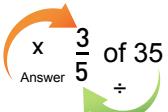
$\frac{2}{3}$ means that something has been cut into 3 **equal** pieces and you have 2 of them.

$3\frac{1}{2}$ is called a mixed number as there is a whole number and a fraction mixed together.

Finding a Fraction of an Amount:

Always divide by the bottom number:

Then multiply by the top number:



$35 \div 5 = 7$. $7 \times 3 = 21$ (to find one fifth \div 5 then \times by 3 to find 3 fifths).

Equivalent Fractions:

Some fractions are exactly the same size as each other. You can multiply (times) or divide the top and bottom numbers as long as you remember the rule of fractions:

Always do the same to the top as the bottom

E.g.

$$\frac{4}{5} \stackrel{x4}{=} \frac{16}{20}$$

$$\frac{15}{18} \stackrel{\div 3}{=} \frac{5}{6}$$

Note: When you divide make sure you use a number that you can divide both the top and the bottom by. This is called simplifying or cancelling.

Converting from an Improper Fraction to a Mixed Number:

Divide the bottom number into the top then the remainder is written as the fraction.

$\frac{21}{4}$ How many 4's in 21 (answer is 5) how many left over? (answer is 1) = $5\frac{1}{4}$

CONVERTING FROM A MIXED NUMBER TO AN IMPROPER FRACTION

Multiply the whole number by the bottom number of the fraction then add on the top number of the fraction.

$$3\frac{4}{5} \quad 3 \times 5 = 15 \text{ then add the extra } 4 \text{ on. You have } 19 \text{ fifths} = \frac{19}{5}$$

Multiplying Fractions:

- Cancel first (remember always to cancel a pair – top & bottom)
- Multiply top by top and bottom by bottom

$$\frac{1}{25} \times \frac{2}{21} = \frac{2}{35} \quad \frac{(1 \times 2)}{(5 \times 7)}$$

The 3 (top) and the 21 (bottom) both divide by 3.
The 10 (top) and the 25 (bottom) both divide by 5.

Dividing Fractions:

- Change the division sign into a multiplication sign.
- Turn the second fraction upside down.
- Multiply as above.

$$\frac{2}{3} \div \frac{5}{7} = \frac{2}{3} \times \frac{7}{5} = \frac{14}{15} \quad \frac{(2 \times 7)}{(3 \times 5)}$$

+ becomes x Second fraction is turned upside down.

Adding & Subtracting Fractions:

- Make sure the denominators are the same (using equivalent fractions)
- Add or subtract the **top** numbers **only**.

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

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

Top & bottom x3 Top & bottom x5

$$\frac{6}{15} \quad \frac{5}{15}$$

Now we have:

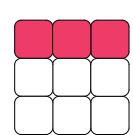
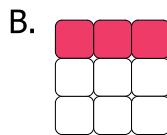
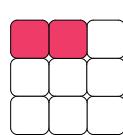
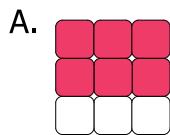
$$\frac{6}{15} + \frac{5}{15} = \frac{11}{15} \quad (\text{the fractions can be added as the denominators are the same})$$

Note: Use exactly the same method for take away but **subtract** the **top** numbers instead of adding.

$$\frac{6}{15} - \frac{5}{15} = \frac{1}{15}$$

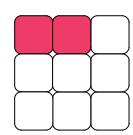
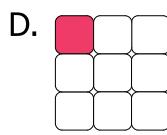
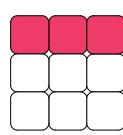
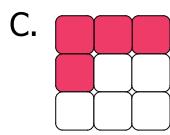
FRACTION: ADDITION PRACTICE

Write the fraction of the colored boxes in the space provided and then add the fractions together.



$$+ =$$

$$+ =$$



$$+ =$$

$$+ =$$

Complete the addition of the fractions below.

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

$+ \frac{5}{16}$

=

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

$+ \frac{2}{3}$

=

G. $\frac{2}{3}$

$+ \frac{4}{5}$

=

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

$+ \frac{2}{3}$

=

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

$+ \frac{1}{2}$

=

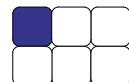
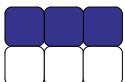
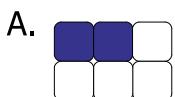
J. $\frac{1}{4}$

$+ \frac{3}{5}$

=

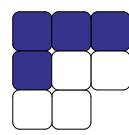
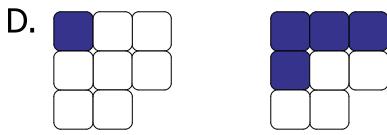
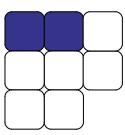
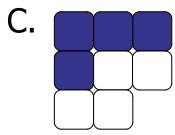
FRACTION: SOME MORE ADDITION PRACTICE

Write the fraction of the colored boxes in the space provided and then add the fractions together.



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

$$\frac{2}{3} + \frac{1}{3} = \frac{3}{3}$$



$$\frac{2}{9} + \frac{5}{9} = \frac{7}{9}$$

Complete the addition of the fractions below.

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

$+ \frac{5}{8}$

$=$

$\frac{5}{9}$

$+ \frac{1}{12}$

$=$

G. $\frac{2}{3}$

$+ \frac{5}{6}$

$=$

$\frac{3}{10}$

$+ \frac{2}{5}$

$=$

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

$+ \frac{2}{3}$

$=$

$\frac{4}{5}$

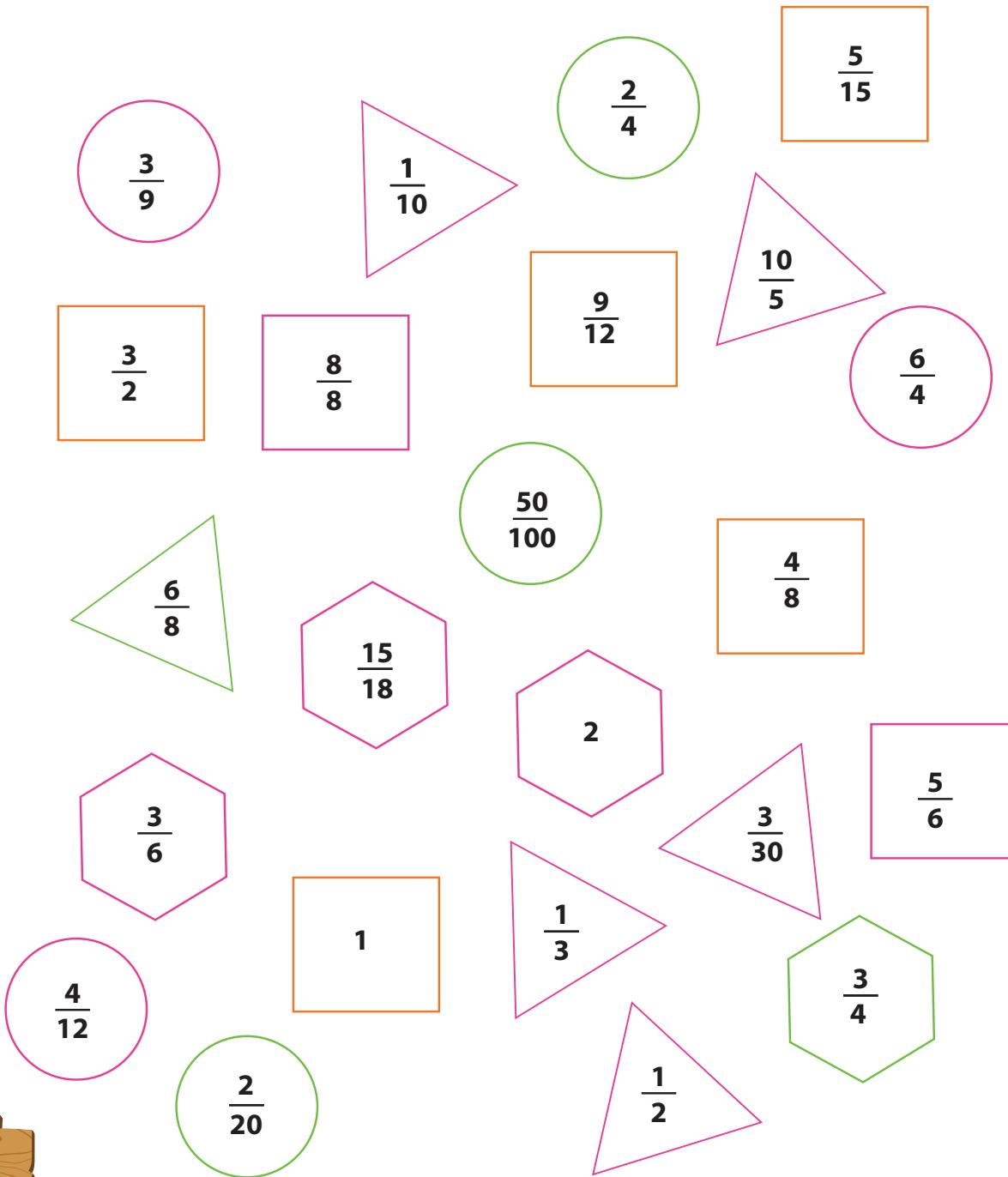
$+ \frac{1}{3}$

$=$

COLORING FUN

PRACTICING FRACTIONS

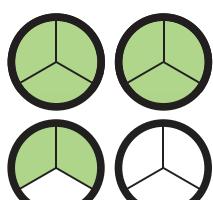
Color the shapes that have the same value with the same color.

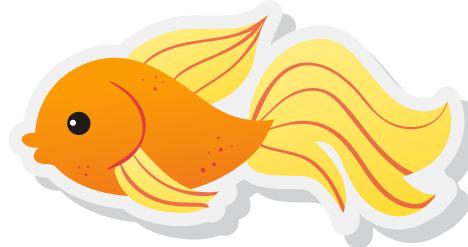


FEED THE GOLDFISH

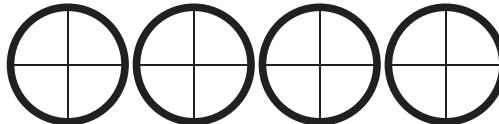
Goldfish are very picky eaters. Feed each goldfish the correct number of pellets by converting the following improper fractions to mixed numbers. Color in the pellets to match each mixed number.

EXAMPLE :

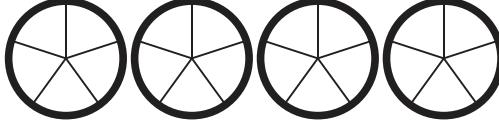
$$\frac{8}{3} \rightarrow 2\frac{2}{3}$$




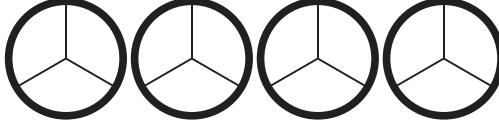
$$\frac{16}{4}$$



$$\frac{13}{5}$$



$$\frac{9}{3}$$



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



For the last one, shade in the pellets using your own outlines.

$$\frac{7}{2}$$



FRACTIONS: ADDITION & SUBTRACTION

Solve the fraction equations. Remember to simplify.

$$\frac{1}{5} + \frac{4}{5} = \frac{5}{5} \text{ or } 1$$

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

$$\frac{6}{12} + \frac{5}{12} = -$$

$$\frac{7}{16} - \frac{3}{16} = -$$

$$\frac{8}{10} - \frac{2}{10} = -$$

$$\frac{7}{8} + \frac{3}{8} = -$$

$$\frac{6}{9} - \frac{6}{9} = -$$

$$\frac{4}{16} + \frac{4}{16} = -$$

$$\frac{3}{7} + \frac{1}{7} = -$$

$$\frac{10}{12} - \frac{6}{12} = -$$

$$\frac{4}{6} + \frac{1}{6} = -$$

$$\frac{7}{8} - \frac{2}{8} = -$$

$$\frac{6}{12} - \frac{3}{12} = -$$

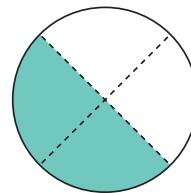
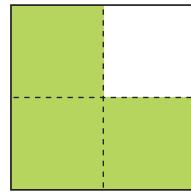
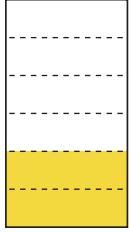
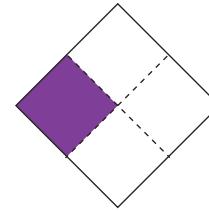
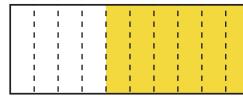
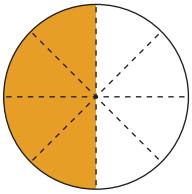
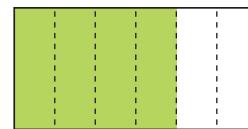
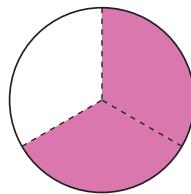
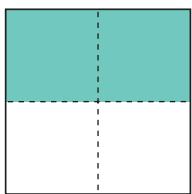
$$\frac{2}{8} + \frac{3}{8} = -$$

$$\frac{5}{9} - \frac{3}{9} = -$$

$$\frac{5}{18} + \frac{4}{18} = -$$

SHAPY FRACTION

What fraction of the shape has been colored?
Write the fraction under the shape.



FRACTIONS: WHO IS BIGGER?

Directions: 1. Multiply or divide to find a common denominator.
2. Then compare the numerator.
3. Write $>$, $<$, or $=$ in the circle.

$\frac{3}{4} \bigcirc \frac{1}{4}$

$\frac{5}{7} \bigcirc \frac{6}{7}$

$\frac{2}{10} \bigcirc \frac{8}{10}$

$-\bigcirc \frac{2}{3}$

$\frac{1}{2} \bigcirc \frac{5}{8}$

$\frac{5}{18} \bigcirc \frac{1}{3}$

$\frac{4}{5} \bigcirc \frac{22}{25}$

$\frac{5}{6} \bigcirc \frac{33}{42}$

$\frac{80}{100} \bigcirc \frac{4}{5}$

$\frac{15}{21} \bigcirc \frac{4}{7}$

$\frac{4}{16} \bigcirc \frac{12}{24}$

$\frac{36}{81} \bigcirc \frac{18}{27}$

$\frac{21}{35} \bigcirc \frac{16}{40}$

$\frac{28}{49} \bigcirc \frac{18}{21}$

$\frac{60}{144} \bigcirc \frac{12}{24}$

$\frac{2}{5} \bigcirc \frac{4}{7}$

$\frac{5}{9} \bigcirc \frac{3}{4}$

$\frac{4}{6} \bigcirc \frac{7}{8}$

$\frac{9}{13} \bigcirc \frac{5}{8}$

$\frac{8}{10} \bigcirc \frac{6}{9}$

$\frac{7}{11} \bigcirc \frac{2}{4}$

$\frac{25}{10} \bigcirc \frac{20}{10}$

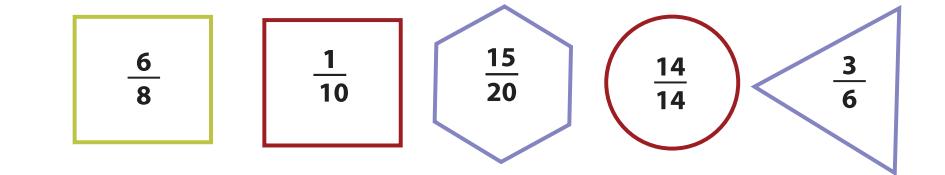
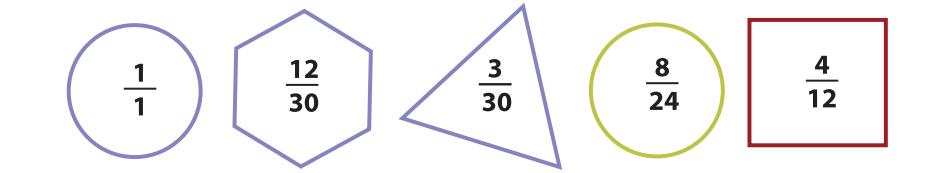
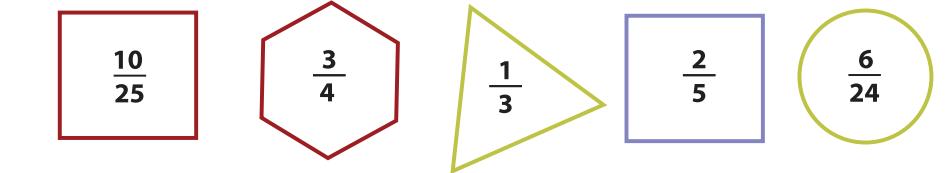
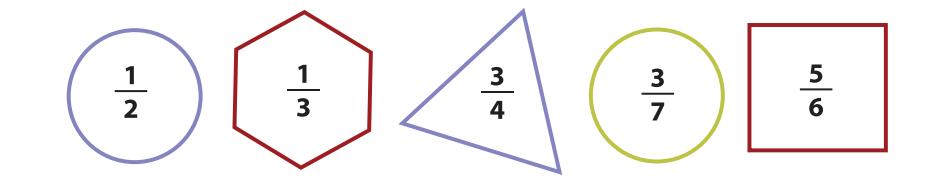
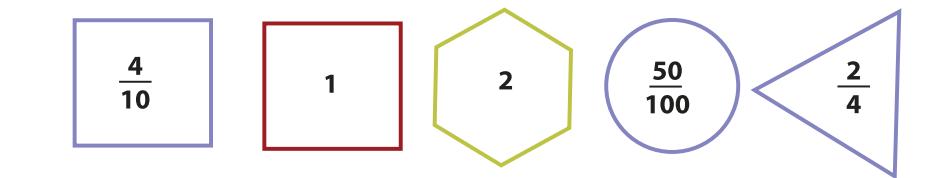
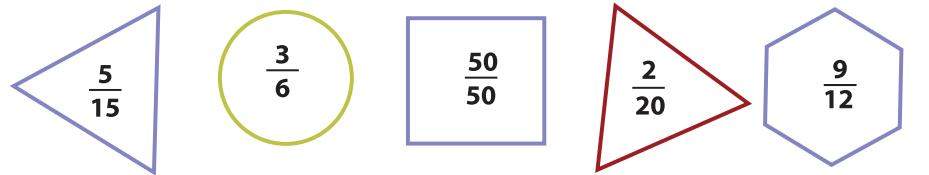
$\frac{46}{6} \bigcirc \frac{14}{4}$

$\frac{57}{7} \bigcirc \frac{62}{9}$

THE ELEPHANT AND THE MOUSE

Practicing Fractions

Color the shape with the greatest value in red and color the shape with the least value in blue



PRACTICE MODULE 1

Simplifying Fractions

✳ Simplify the following fractions.

$$\frac{22}{66} \stackrel{\div 22}{=} \frac{1}{3}$$

$$\frac{15}{20} = \underline{\quad}$$

$$\frac{28}{42} = \underline{\quad}$$

$$\frac{12}{36} = \underline{\quad}$$

$$\frac{28}{35} = \underline{\quad}$$

$$\frac{24}{40} = \underline{\quad}$$

$$\frac{19}{76} = \underline{\quad}$$

$$\frac{18}{60} = \underline{\quad}$$

$$\frac{23}{46} = \underline{\quad}$$

✳ Now that you've got the hang of it, look closely at the following fractions. They do not simplify very well, but they are very close to a simplifiable fraction. For example, **45/61** cannot be simplified, but we know that **45/60 = 3/4**. So, **45/61** can be approximated to **3/4**. Be sure to show your work.

$$\frac{45}{51} \approx \frac{9}{10}$$

$$\frac{11}{45} \approx \underline{\quad}$$

$$\frac{13}{24} \approx \underline{\quad}$$

$$\approx \frac{45 \div 5}{50 \div 5} \rightarrow \frac{9}{10}$$

$$\frac{23}{30} \approx \underline{\quad}$$

$$\frac{89}{90} \approx \underline{\quad}$$

$$\frac{31}{36} \approx \underline{\quad}$$

$$\frac{37}{72} \approx \underline{\quad}$$

$$\frac{49}{64} \approx \underline{\quad}$$

$$\frac{10}{61} \approx \underline{\quad}$$

PRACTICE MODULE 2

Simplifying Fractions

✳ Simplify the following fractions.

$$\frac{12}{30} \stackrel{6}{=} \frac{2}{5}$$

$$\frac{20}{24} = \underline{\quad}$$

$$\frac{63}{70} = \underline{\quad}$$

$$\frac{5}{15} = \underline{\quad}$$

$$\frac{27}{45} = \underline{\quad}$$

$$\frac{10}{20} = \underline{\quad}$$

$$\frac{3}{18} = \underline{\quad}$$

$$\frac{18}{27} = \underline{\quad}$$

$$\frac{24}{32} = \underline{\quad}$$

Now that you've got the hang of it, look closely at the following fractions. They do not simplify very well, but they are very close to a simplifiable fraction. For example, **51/100** cannot be simplified, but we know that **50/100 = 1/2**. So, **50/100** can be approximated to **1/2**. Be sure to show your work.

$$\frac{16}{63} \approx \frac{1}{4}$$

$$\approx \frac{16 - 16}{64} \quad \frac{1}{4}$$

$$\frac{75}{99} \approx \underline{\quad}$$

$$\frac{13}{25} \approx \underline{\quad}$$

$$\frac{19}{100} \approx \underline{\quad}$$

$$\frac{11}{72} \approx \underline{\quad}$$

$$\frac{41}{63} \approx \underline{\quad}$$

$$\frac{28}{71} \approx \underline{\quad}$$

$$\frac{24}{99} \approx \underline{\quad}$$

$$\frac{19}{98} \approx \underline{\quad}$$