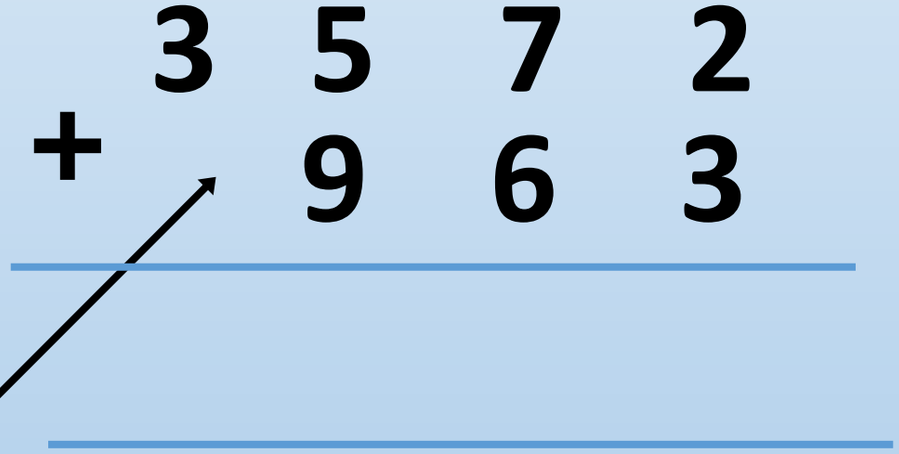
Arithmetic

Monday 19th October

Addition and Subtraction

Recap Addition

1. What is the most important thing to remember when starting our column addition questions?

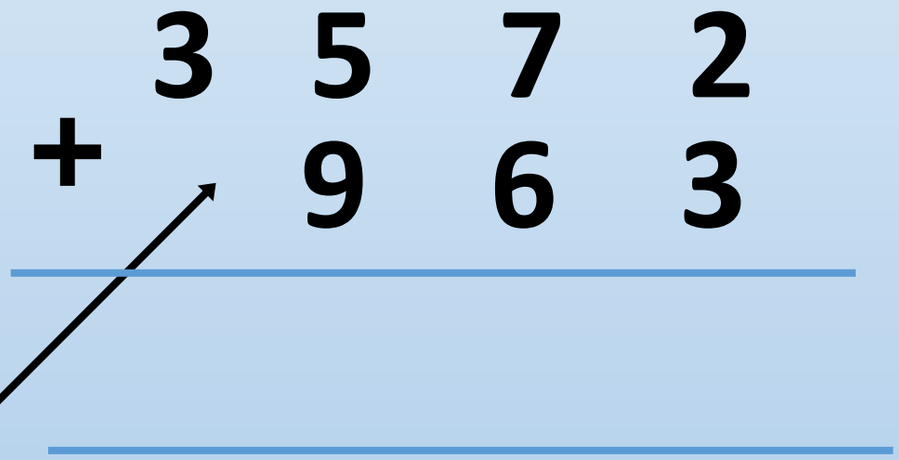


What could we put here?

1. digits in the correct columns
2. A place holder

Recap Addition

1. What is the most important thing to remember when starting our column addition questions?



What could we put here?

A place holder

$$\begin{array}{r} 3\ 5\ 7\ 2 \\ +0\ 9\ 6\ 3 \\ \hline \end{array}$$

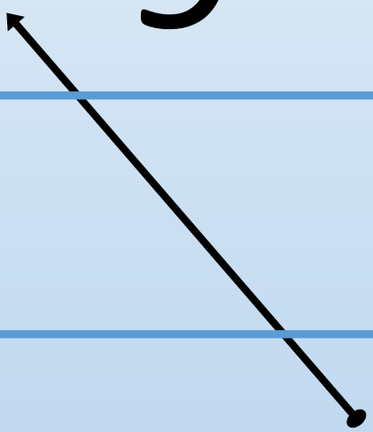
Where do we start adding?

Ones column

$$
\begin{array}{r}
3\ 5\ 7\ 2 \\
+\ 0\ 9\ 6\ 3 \\
\hline
\mathbf{4\ 5\ 3\ 5}
\end{array}
$$

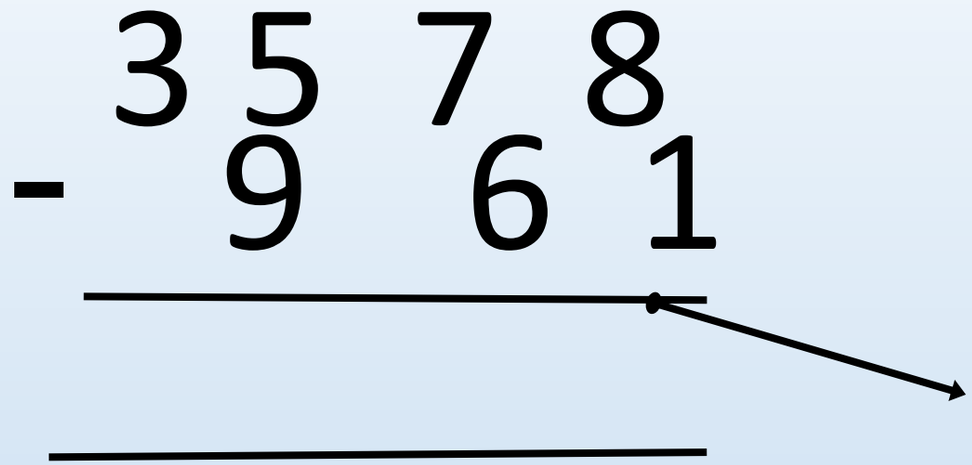
Recap Subtraction

$$\begin{array}{r} 3\ 5\ 7\ 8 \\ -\ \ 9\ 6\ 1 \\ \hline \\ \hline \end{array}$$



What could we put here?

a place holder



Where do we start subtracting?

Ones column

3 5 7 8
-0 9 6 1

2 6 1 7

After the ones column, where do we move to next?

Now try:

A

1. 531 + 2611 =
2. 4233 + 9153 =
3. 3855 - 243 =
4. 9447 - 637 =
5. 8374 - 533 =
6. 5831 + 451 =
7 3783 + 977 =
8. 2391 - 625 =
9. 4637 + 2727 =
10. 56922 - 985 =

B

1. 38201 + 9973 =
2. 293 + 76573 =
3. 9753 - 9432 =
4. 39472 - 3973 =
5. 66249 + 77038 =
6. 1839374 - 32922 =
7. 165445 - 29037 =
8. 9909 + 320922 =
9. 97865+ 378949 =
10. 282250 - 2342 =

Answers:

A

1. 531 + 2611 = 3142
2. 4233 + 9153 = 13386
3. 3855 - 243 = 3512
4. 9447 - 637 = 8810
5. 8374 - 533 = 7841
6. 5831 + 451 = 6282
7. 3783 + 977 = 4760
8. 2391 - 625 = 1766
9. 4637 + 2727 = 7364
10. 56922 - 985 = 55,937

B

1. 38201 + 9973 = 48174
2. 293 + 76573 = 76866
3. 9753 - 9432 = 321
4. 39472 - 3973 = 35499
5. 66249 + 77038 = 143287
6. 1839374 - 32922 = 1806452
7. 165445 - 29037 = 136,408
8. 9909 + 320922 = 330831
9. 97865+ 378949 = 476814
10. 282250 - 2342 = 279908

MATHS

19.10.20

Today we will be completing an end of topic quiz.

It is a quiz on all the Place Value lessons you have done so far.

You will have 25 mins to complete the quiz.

1 Calculate.

$2{,}140 + 794 =$ _____

$10{,}000 - 4{,}192 =$ _____

$3{,}261 \times 7 =$ _____

$276 \div 4 =$ _____

4 marks

2 Complete the missing digits.

	2	☐	7	4
+	☐	1	4	☐
	5	5	1	7

☐

2 marks

3 Eva's House is worth £653, 000

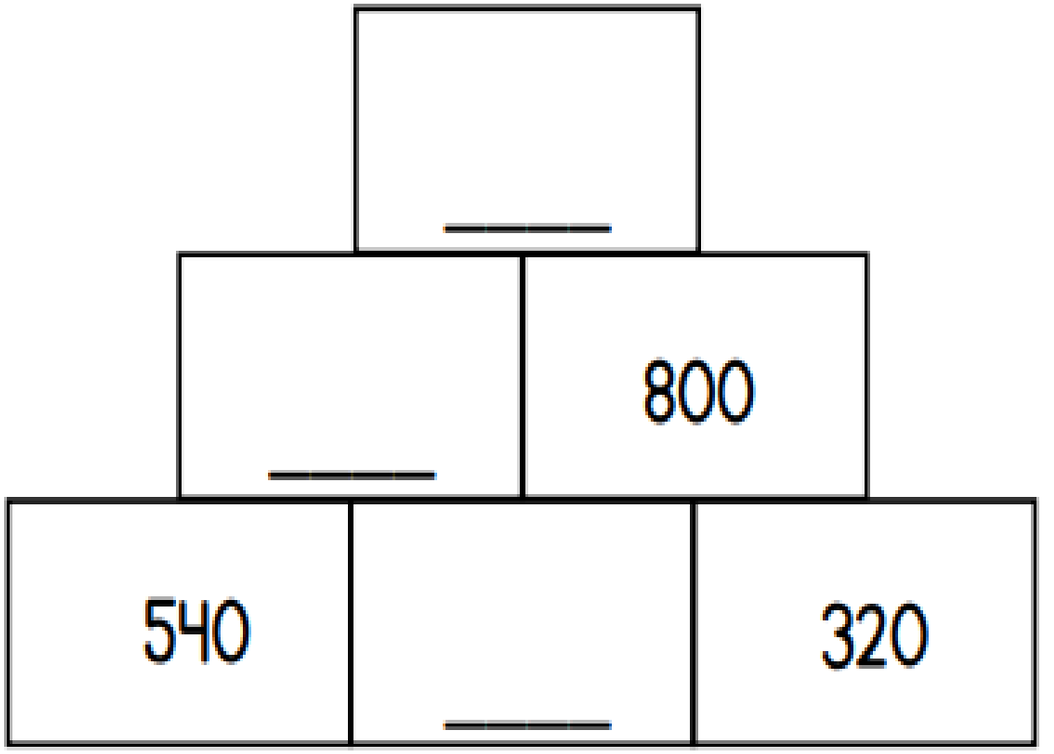
Amir's house is worth £179, 000 less than Eva's house.

Complete the bar model to represent the information..

☐

2 marks

4 Complete the addition pyramid.



3 marks

5 Amy completes the calculation 145 ÷ 6

She gets a remainder of 7

Explain how you know Amy is incorrect.

6 Pencils are put into packs of 24

There are 3,608 pencils.

How many packs of pencils can be made?

_____ full packs _____ pencils left over.

How many more pencils are needed to make another full pack?

_____

7 Complete the missing numbers.

$$8 \times 6 = 4 \times \square$$

$$\square \div 6 = 444 \div 12$$

8 4 boxes weigh 292 kg.
4 boxes and 7 bags weigh 656 kg.
How much does one bag weigh?

kg

9 There are 5 times as many pens in box A than box B.
Tom moves 76 pens from box A to box B.
Both boxes now have the same number of pens.
How many pens are in box A now?

pens

Answers

Go through your answers.
Use a different colour pen to mark your work.

If you do get incorrect answers, try completing the question again, to see where you went wrong.

1 Calculate.

$2{,}140 + 794 =$ 2,934

$10{,}000 - 4{,}192 =$ 5,808

$3{,}261 \times 7 =$ 22,827

$276 \div 4 =$ 69

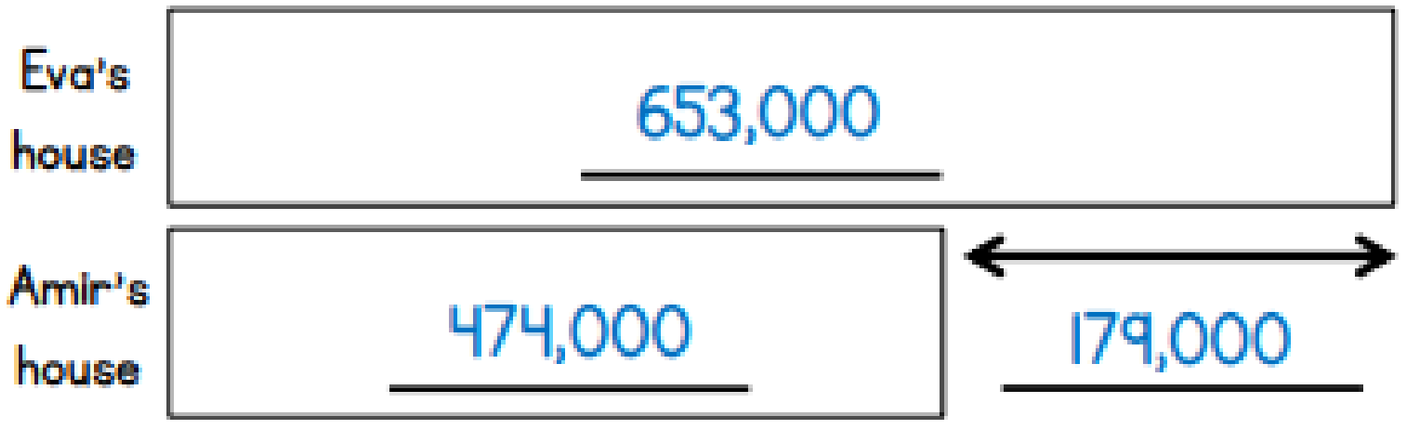
2 Complete the missing digits.

	2	3	7	4
+	3	1	4	3
	5	5	1	7

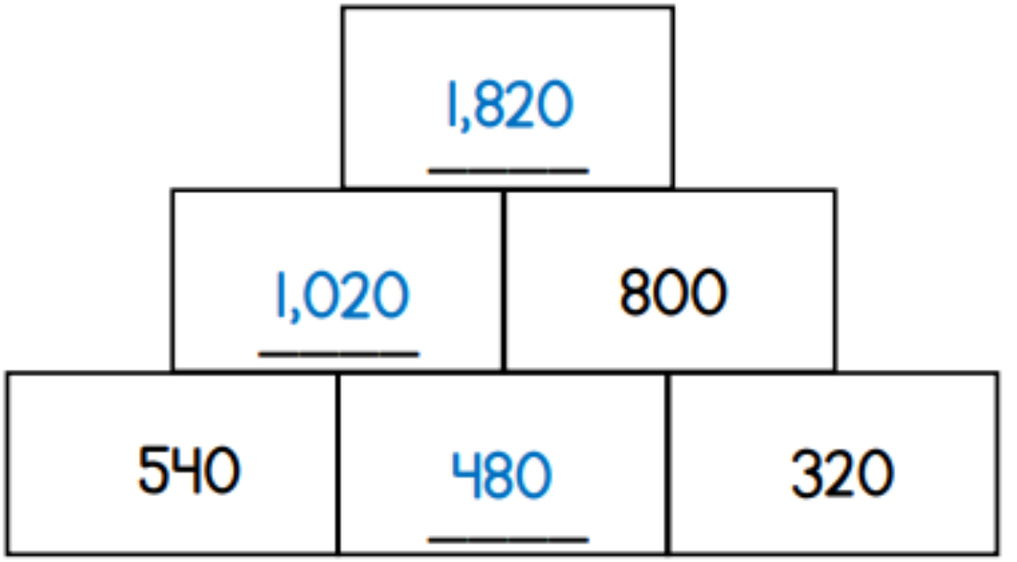
3 Eva's House is worth £653, 000

Amir's house is worth £179, 000 less than Eva's house.

Complete the bar model to represent the information.



4 Complete the addition pyramid.



3 marks

5 Amy completes the calculation 145 ÷ 6

She gets a remainder of 7

Explain how you know Amy is incorrect.

If the divisor is 6 then the remainder cannot be greater than 5

6 Pencils are put into packs of 24
There are 3,608 pencils.
How many packs of pencils can be made?

150 full packs 8 pencils left over.

How many more pencils are needed to make another full pack?

16

7 Complete the missing numbers.

$8 \times 6 = 4 \times \boxed{12}$

$\boxed{222} \div 6 = 444 \div 12$

8 4 boxes weigh 292 kg.
4 boxes and 7 bags weigh 656 kg.
How much does one bag weigh?

52 kg

9 There are 5 times as many pens in box A than box B.
Tom moves 76 pens from box A to box B.
Both boxes now have the same amount of pens.
How many pens are in box A now?

114 pens

Review

Circle how confident you feel with four operations.

1	2	3	4	5
Not confident				Very confident

Date: 20.10.2020

LO: Write equivalent fractions of a given fraction (Year 5)

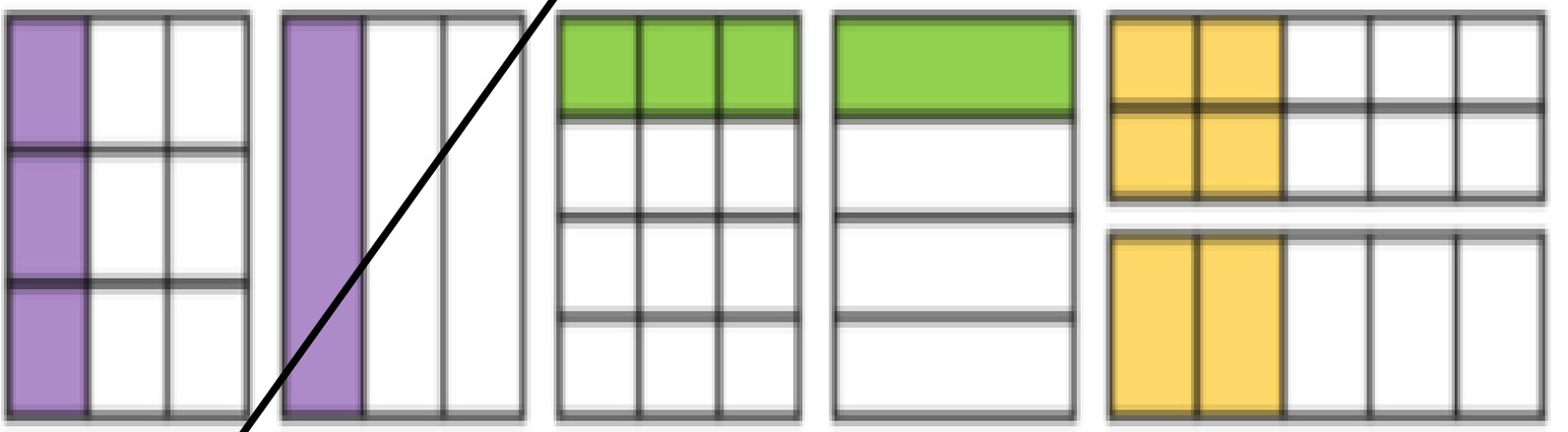
Steps to Success	My Check	Teacher Check
I can use my knowledge of multiples and factors to help work out equivalent fractions.		
I can use my knowledge of equivalent fractions to work out problems.		
I can use my mathematical knowledge to help me reason.		

Key vocabulary:

equivalent
fractions
parts of a whole
factors
multiples

Prepare for Learning

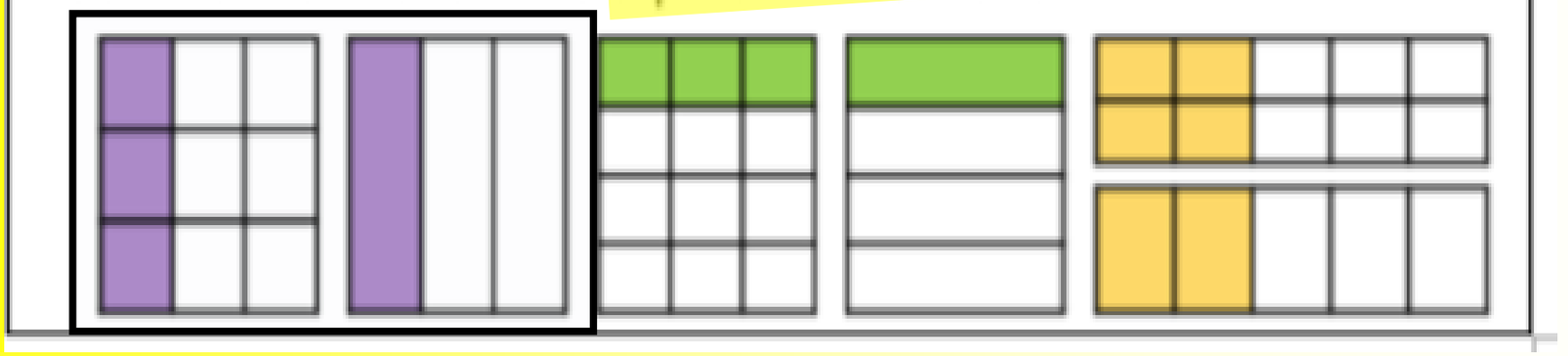
Use the models to write equivalent fractions.



Equivalent fractions are fractions that have the same value but may look different.

Prepare for Learning

Use the models to write equivalent fractions.

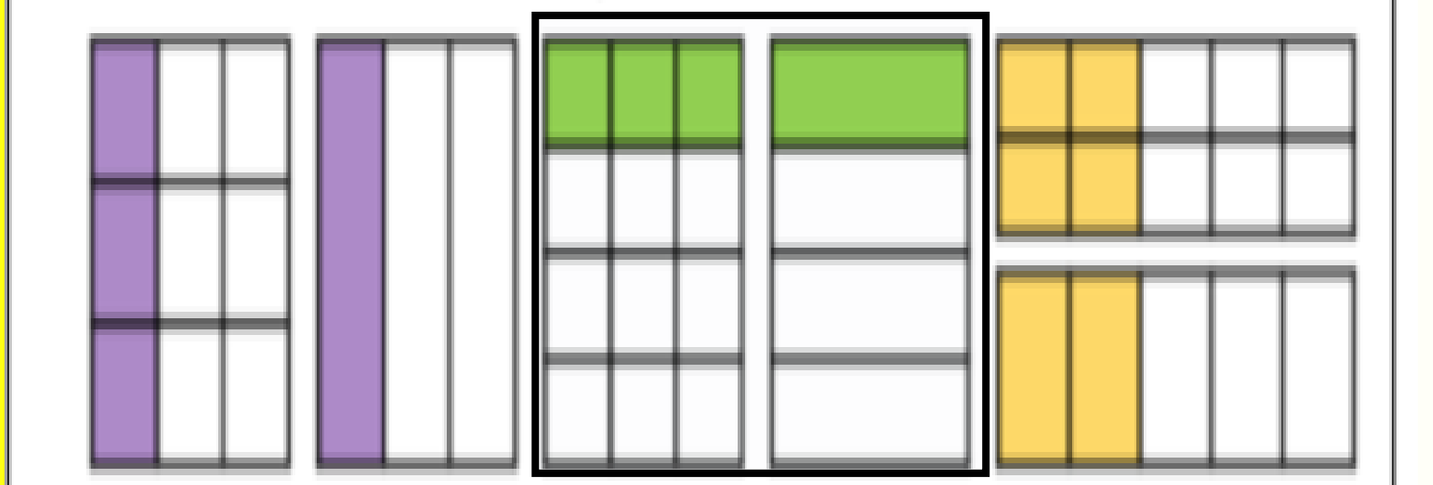


$$\frac{3}{9} = \frac{1}{3}$$

3/9 is equivalent to 1/3.

Prepare for Learning

Use the models to write equivalent fractions.



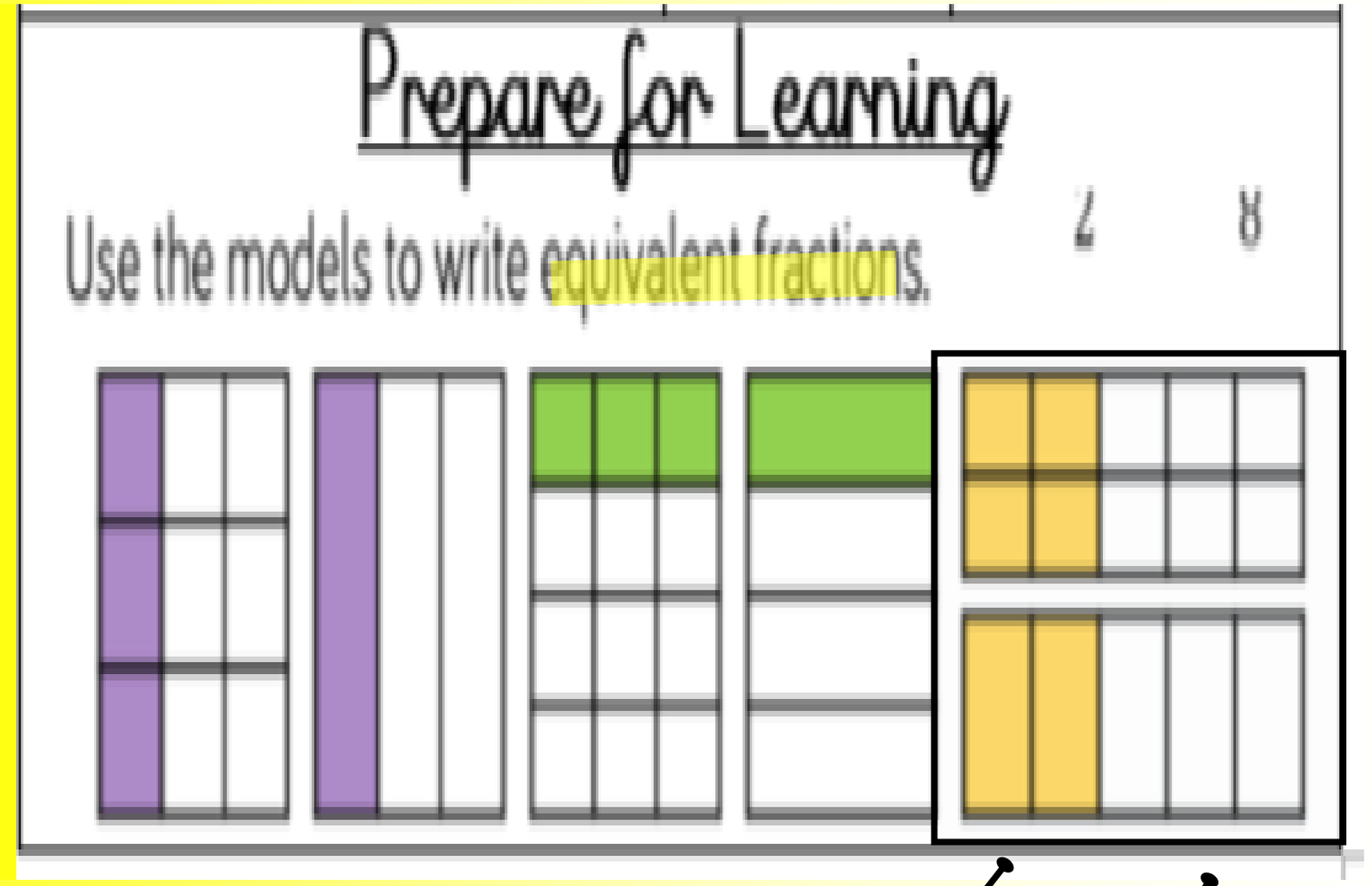
A?

B?

Prepare for Learning

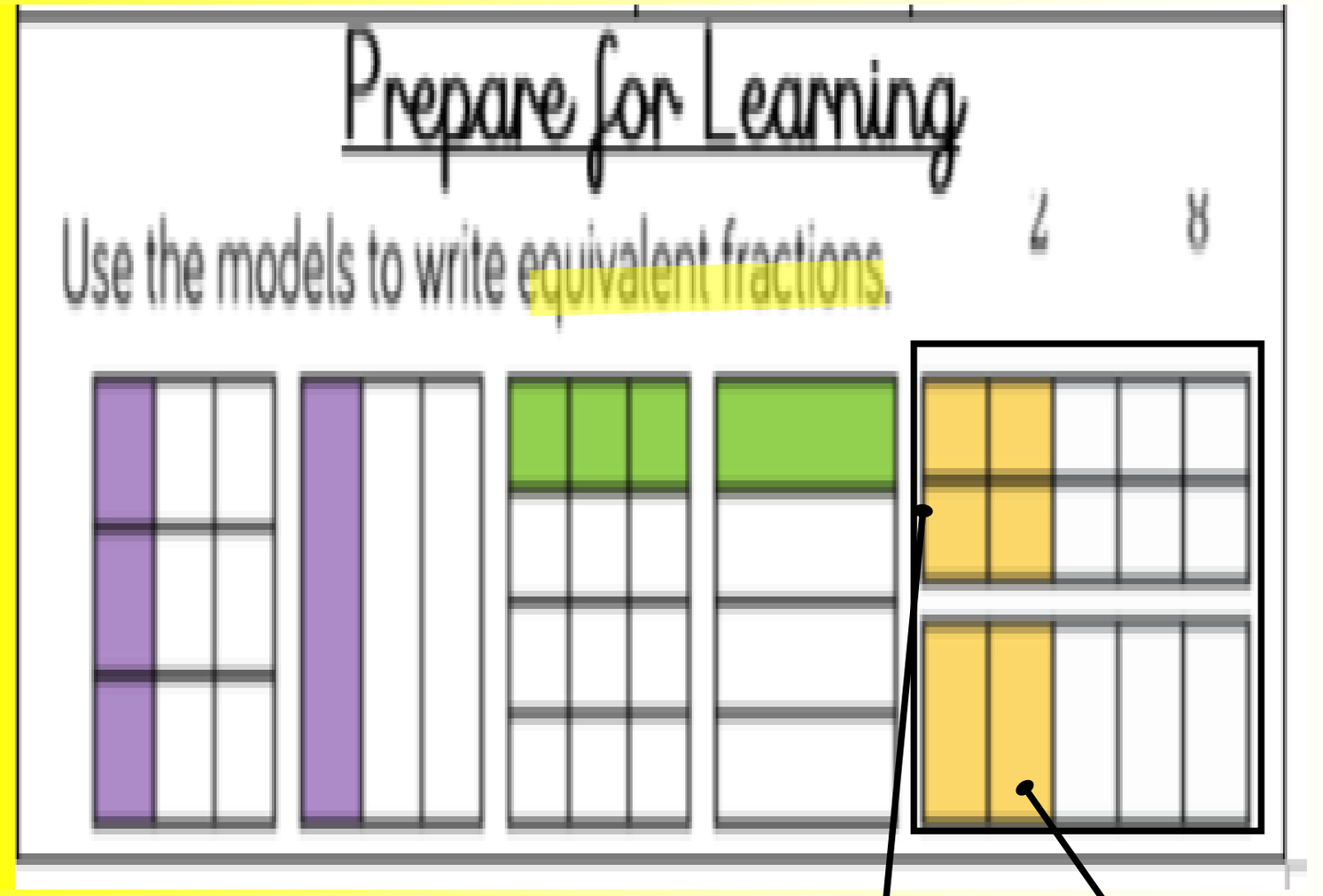
Use the models to write equivalent fractions.

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


Prepare for Learning
Use the models to write equivalent fractions.
A?
B?

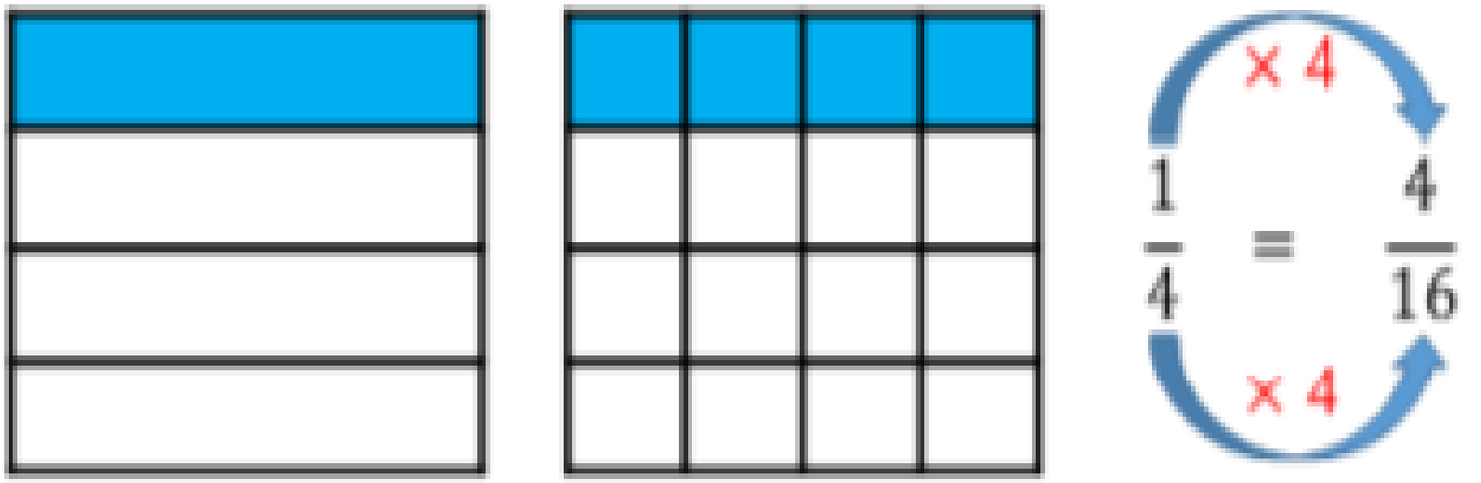
Prepare for Learning

Use the models to write equivalent fractions.



$$\frac{4}{10} = \frac{2}{5}$$

You can use visual diagrams and your knowledge of multiplication and division skills to work out equivalent fractions.



Core practice

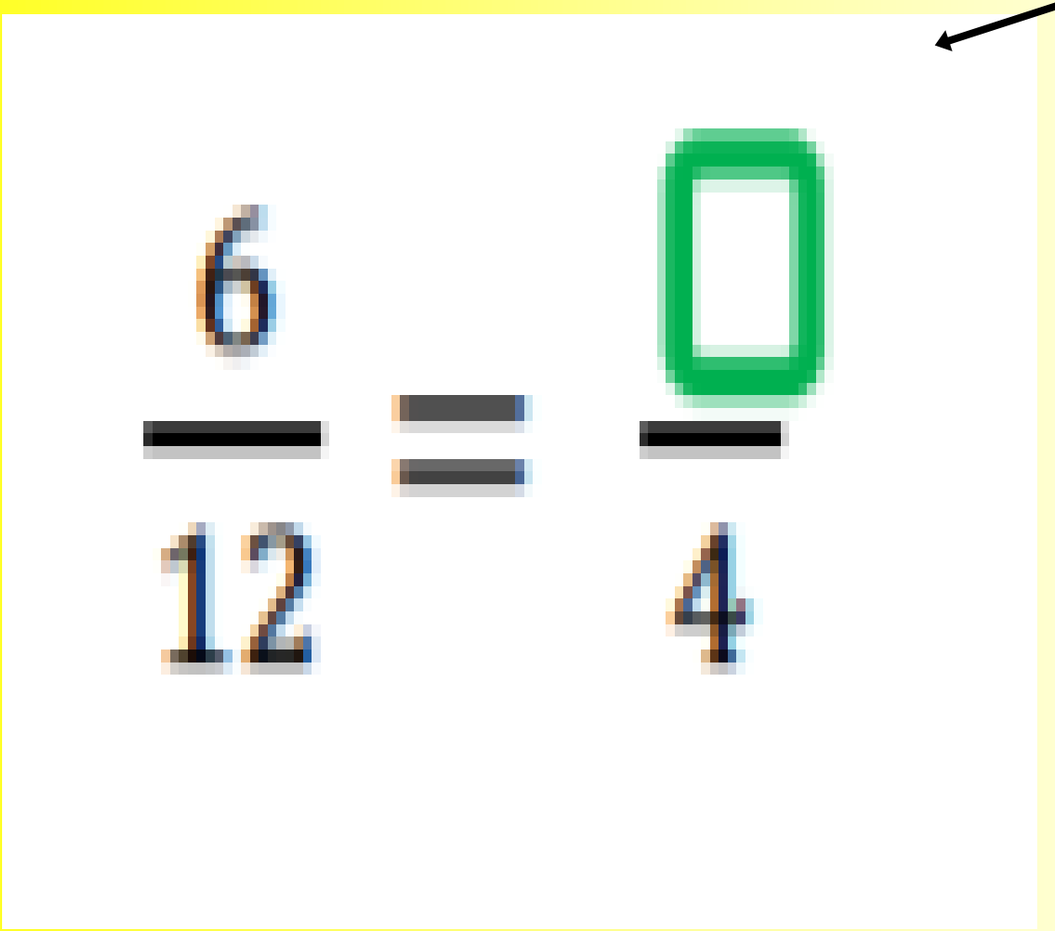
$$\frac{6}{12} = \frac{\square}{4}$$

How could you use your division skills to work this out?

Core practice

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

What do you divide 12 by to get 4?



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

Whatever you do to the denominator you do the same to the numerator.

What do you divide 12 by to get 4? ÷ 3

Core practice

$$\frac{6}{12} \overset{\div 3}{=} \frac{\square}{4}$$

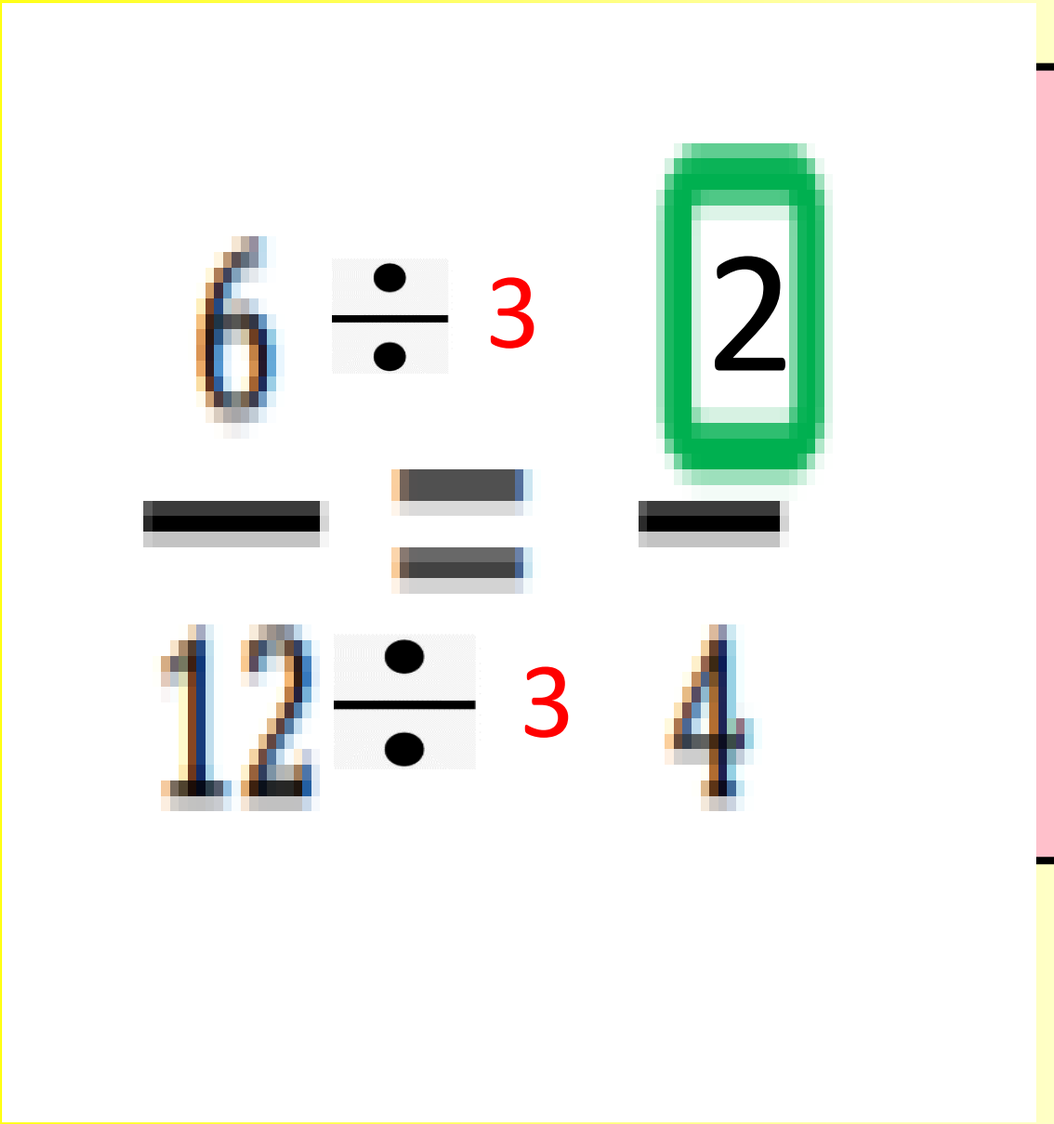
Whatever you do to the denominator, you do the same to the numerator.

Core practice

$$\frac{6}{12} \overset{\div 3}{=} \frac{\square}{4}$$

6 divided by 3= 2.

Core practice



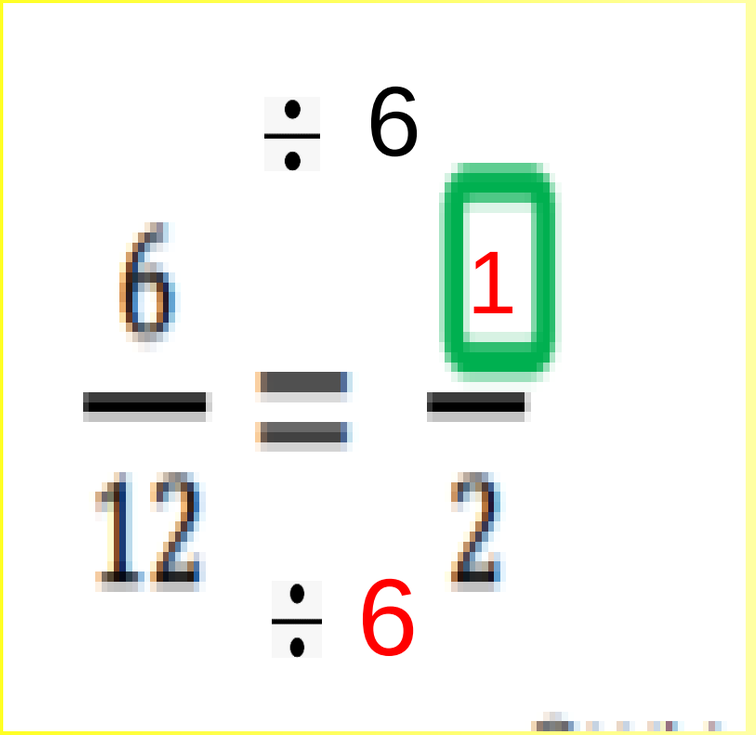
6/12 is equivalent to 2/4.

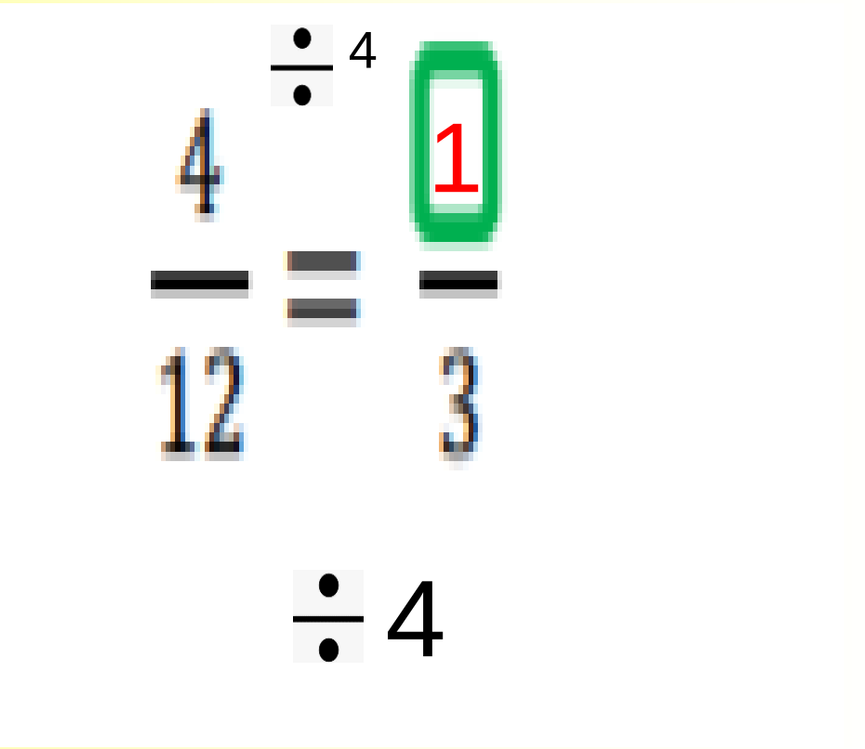
Core practice

Have a go at these equivalent fractions below.

$$\frac{6}{12} = \frac{\square}{2}$$

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





Core practice

Have a go at these equivalent fractions below.

Precore

1. 2/4 = 1/ ☐
2. 3/9= 1/ ☐
3. 4/8= 1/ ☐
4. 3/ 12= 1/ ☐
5. 2/16= 1/ ☐
6. 3/ 15= 1/ ☐
7. 4/ 20= 1/ ☐
8. 5/ 10= 1/ ☐

Precore

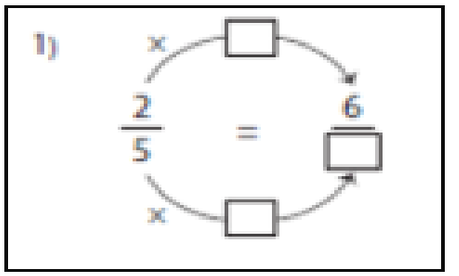
1. 2/4 = 1/ ☐
2. 3/9= 1/ ☐
3. 4/8= 1/ ☐
4. 3/ 12= 1/ ☐
5. 2/16= 1/ ☐
6. 3/ 15= 1/ ☐
7. 4/ 20= 1/ ☐
8. 5/ 10= 1/ ☐

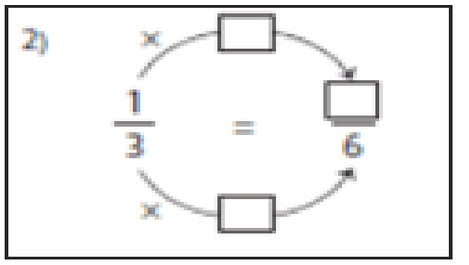
Answers:

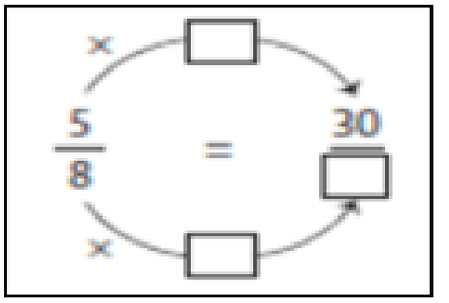
1. 1/2
2. 1/3
3. 1/2
4. 1/4
5. 1/8
6. 1/5
7. 1/5
8. 1/2

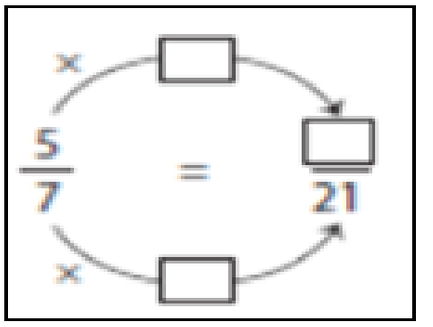
Core

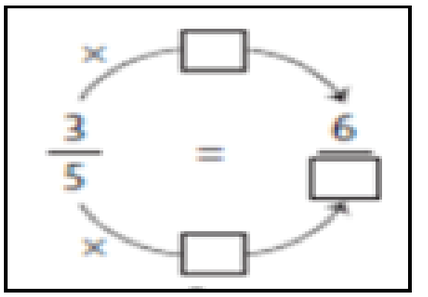
Fill in the equivalent fractions

1. 

2. 

3. 

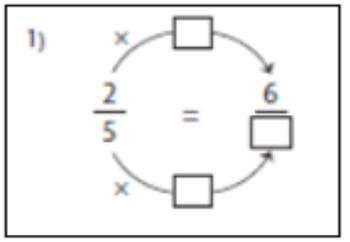
4. 

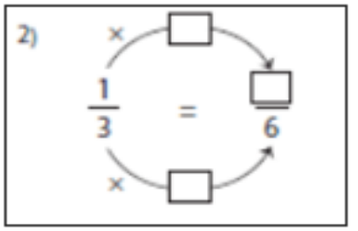
5. 

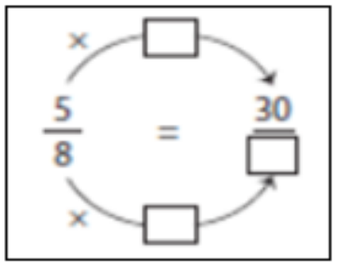
Core

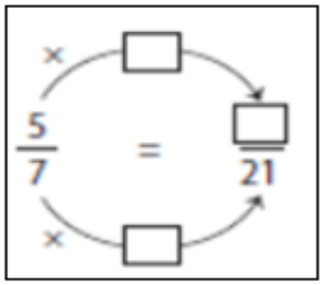
Core

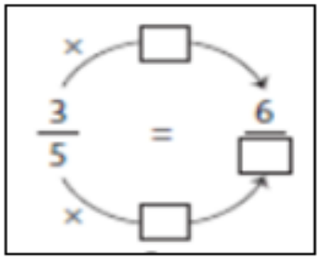
Fill in the equivalent fractions

1. 

2. 

3. 

4. 

5. 

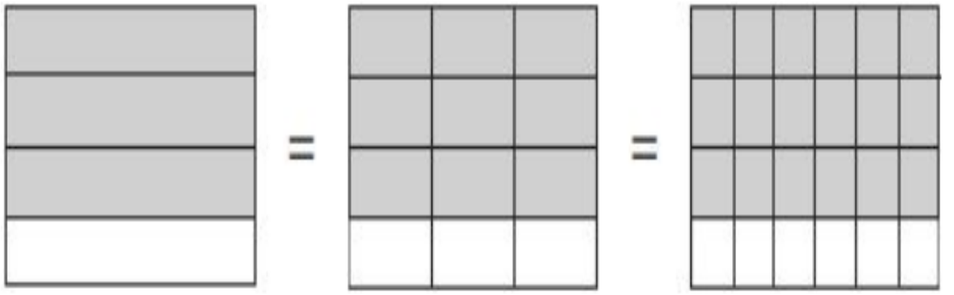
Answers:

1. 6/15
2. 2/6
3. 30/48
4. 15/21
5. 6/10

Depth

In this question, you have been given a visual diagram and you will need to use your division and multiplication skills.

These diagrams show three equivalent fractions.



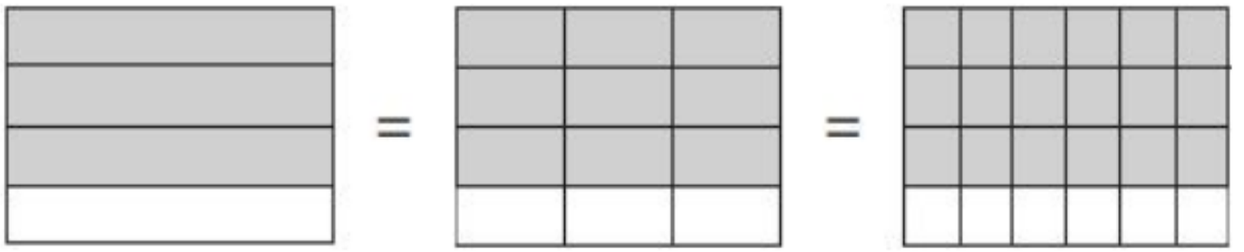
Write the missing values.

$$\frac{3}{4} = \frac{9}{\square} = \frac{\square}{24}$$

Depth

Three fractions that are the same value.

These diagrams show three equivalent fractions.

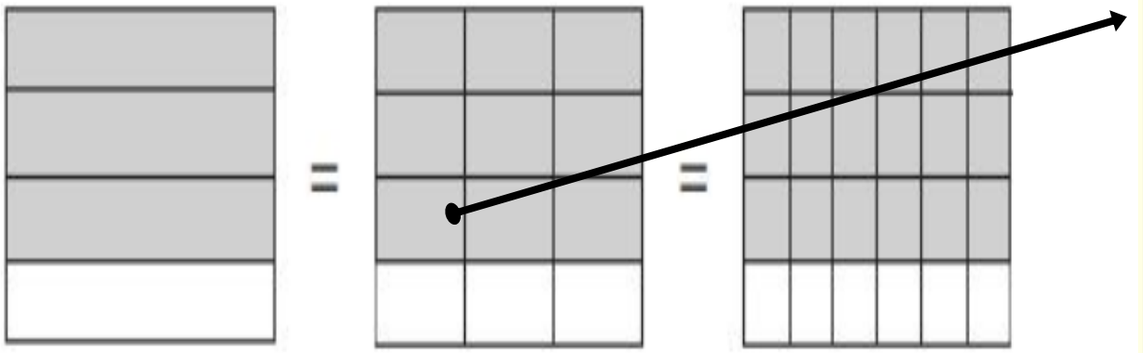


Write the missing values.

$$\frac{3}{4} = \frac{9}{\square} = \frac{\square}{24}$$

Depth

These diagrams show three equivalent fractions.



Write the missing values.

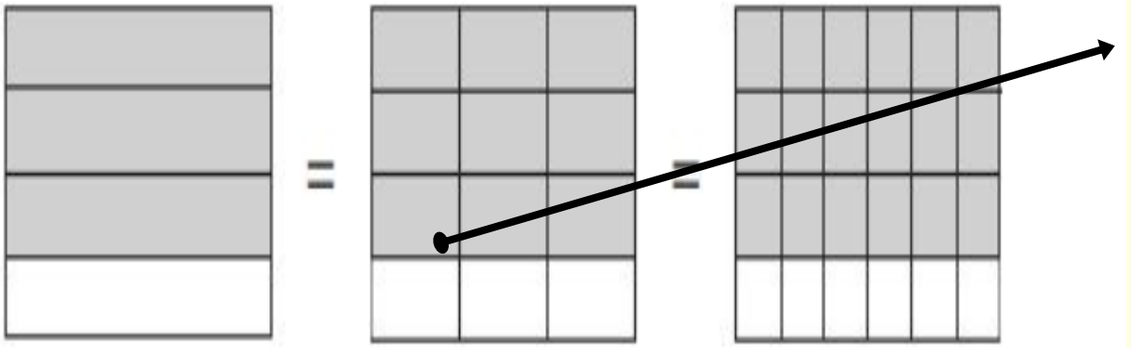
$$\frac{3}{4} \quad \overset{\times 3}{=} \quad \frac{9}{\square} \quad = \quad \frac{\square}{24}$$

$\times 3$

Here you need to make the link between the numerators. Remember whatever you do to the numerator you need to do to the denominator.

Depth

These diagrams show three equivalent fractions.



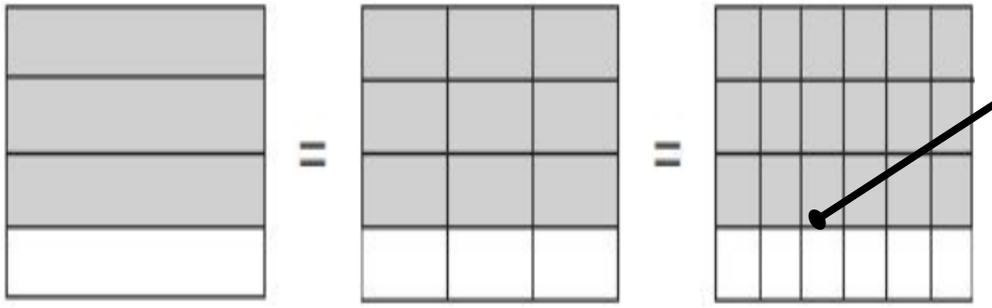
Write the missing values.

$$\frac{3}{4} \quad \begin{matrix} \times 3 \\ = \\ \times 3 \end{matrix} \quad \frac{9}{12} = \frac{\square}{24}$$

Here you need to make the link between the numerators. Remember whatever you do to the numerator you need to do to the denominator.

Depth

These diagrams show three equivalent fractions.



x 2

Write the missing values.

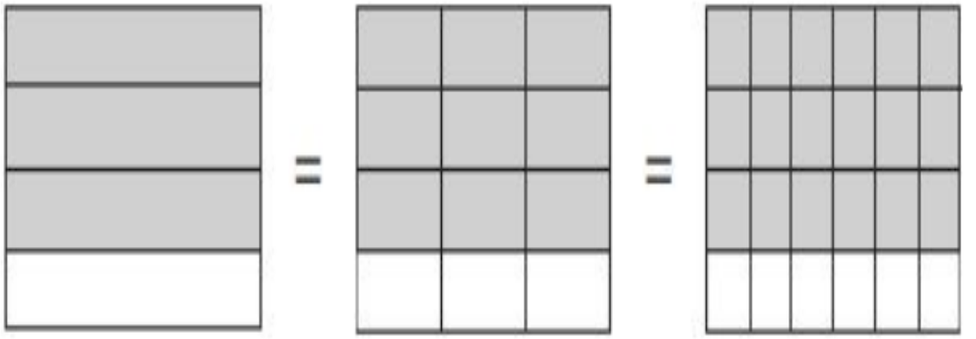
$$\frac{3}{4} = \frac{9}{\boxed{12}} = \frac{\square}{24}$$

x 2

Now you need to look at the denominator for the next fraction. What is the link?

Depth

These diagrams show three equivalent fractions.



Write the missing values.

$$\frac{3}{4} = \frac{9}{\boxed{12}} = \frac{\boxed{18}}{24}$$

x 2 x 2

12 x 2= 24
Remember whatever you do the denominator , you need to do to the numerator.

Depth

1.

Complete these fractions to make each equivalent to $\frac{3}{5}$

$\frac{\square}{10}$ $\frac{\square}{15}$ $\frac{12}{\square}$

Depth

1.

Complete these fractions to make each equivalent to $\frac{3}{5}$

$\frac{6}{10}$ $\frac{9}{15}$ $\frac{12}{20}$

2.

Circle the **two** fractions that have the same value.

$\frac{2}{10}$ $\frac{1}{3}$ $\frac{1}{2}$

$\frac{5}{10}$ $\frac{1}{4}$

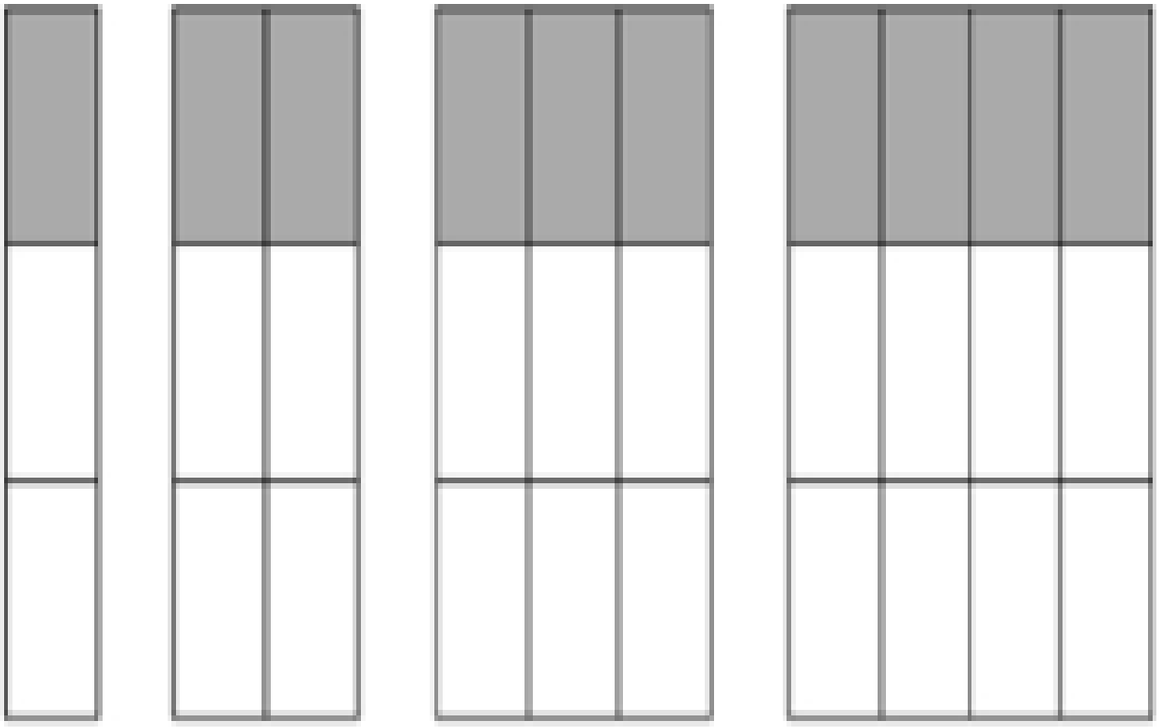
2.

Circle the **two** fractions that have the same value.

$\frac{2}{10}$ $\frac{1}{3}$ $\frac{1}{2}$

$\frac{5}{10}$ $\frac{1}{4}$

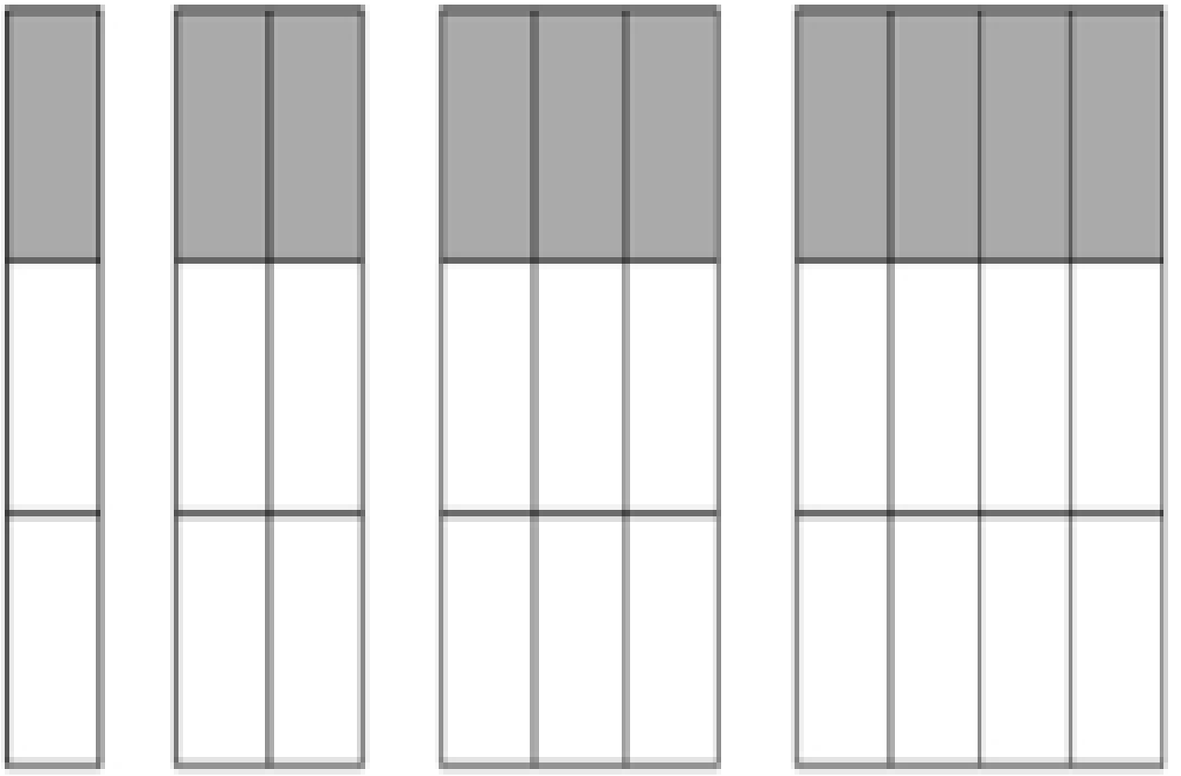
Look at the diagrams.



Complete the fractions.

$$\frac{1}{3} = \frac{\square}{6} = \frac{3}{\square} = \frac{\square}{12}$$

Look at the diagrams.

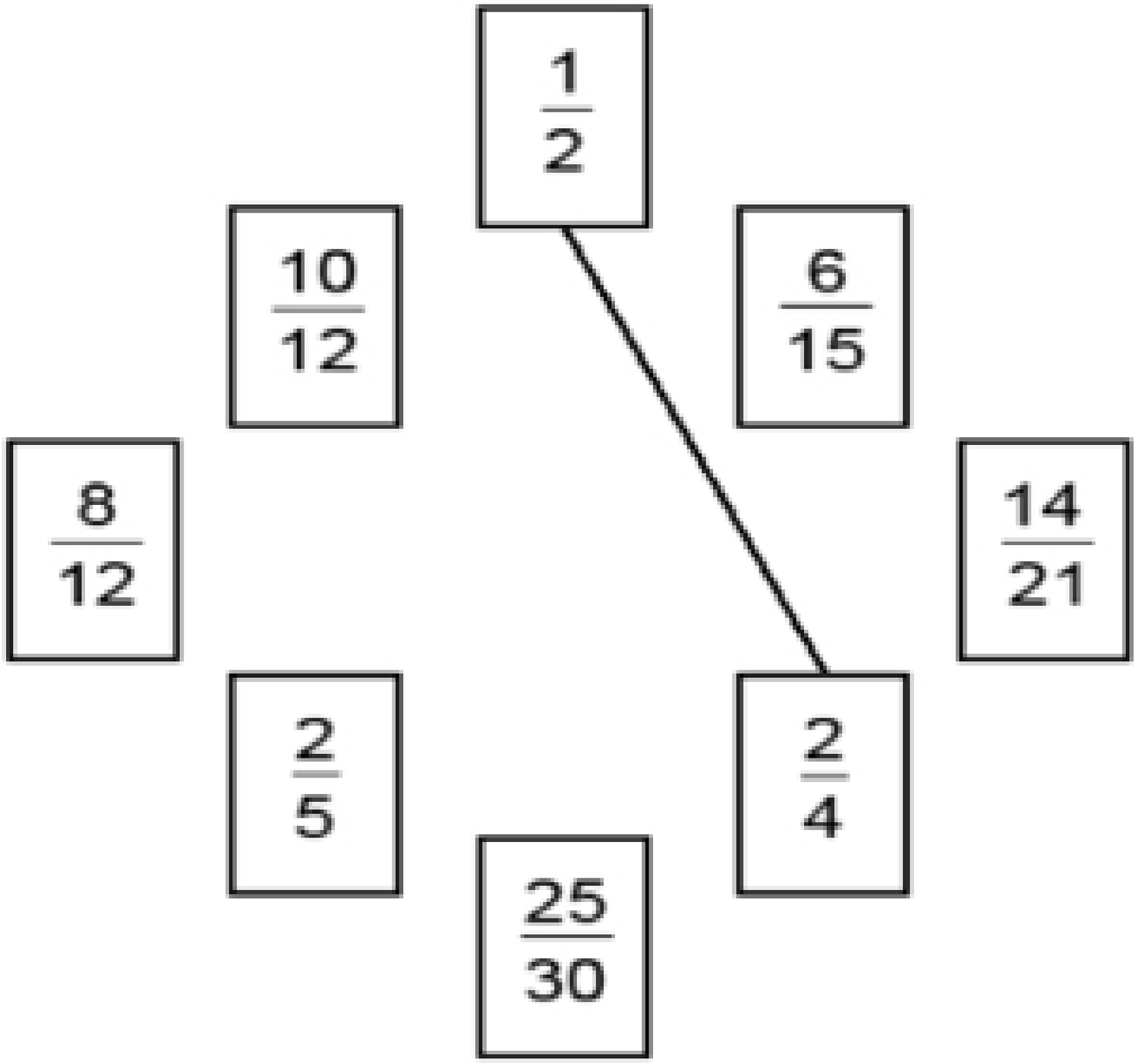


Complete the fractions.

$$\frac{1}{3} = \frac{\boxed{2}}{6} = \frac{3}{\boxed{9}} = \frac{\boxed{4}}{12}$$

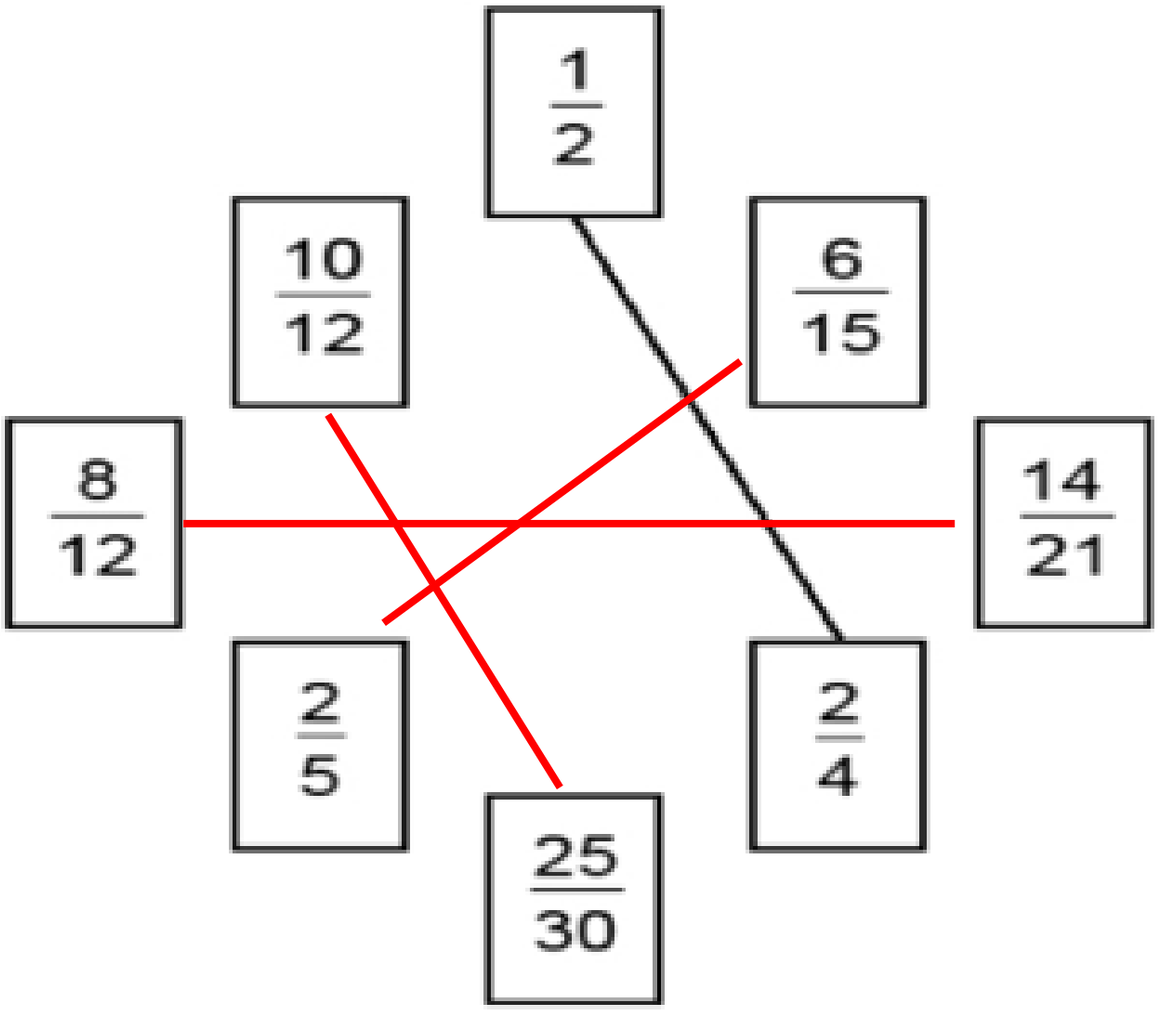
Join pairs of equivalent fractions.

One is done for you.



Join pairs of equivalent fractions.

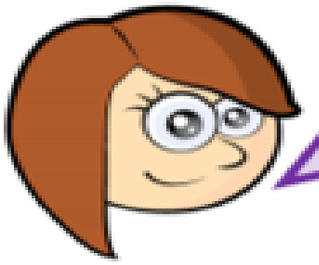
One is done for you.



Greater Depth

1.

Rosie says,



To find equivalent fractions, whatever you do to the numerator, you do to the denominator.

Using her method, here are the equivalent fractions Rosie has found for $\frac{4}{8}$

$$\frac{4}{8} = \frac{8}{16} \qquad \frac{4}{8} = \frac{6}{10}$$

$$\frac{4}{8} = \frac{2}{4} \qquad \frac{4}{8} = \frac{1}{5}$$

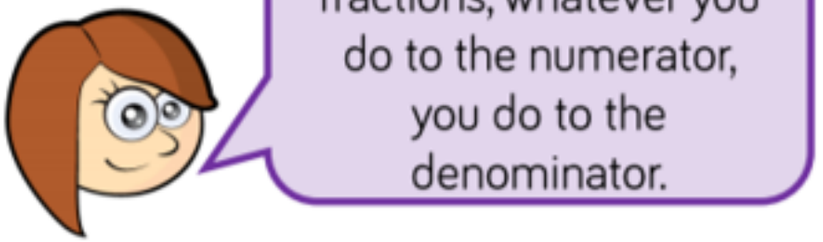
Are all Rosie's fractions equivalent?
Does Rosie's method work?
Explain your reasons.

7

Greater Depth

1.

Rosie says,



Using her method, here are the equivalent fractions Rosie has found for $\frac{4}{8}$

$\frac{4}{8} = \frac{8}{16}$ $\quad$ $\frac{4}{8} = \frac{6}{10}$

$\frac{4}{8} = \frac{2}{4}$ $\quad$ $\frac{4}{8} = \frac{1}{5}$

Are all Rosie's fractions equivalent?
Does Rosie's method work?
Explain your reasons.

$\frac{4}{8} = \frac{1}{5}$ and $\frac{4}{8} = \frac{6}{10}$ are incorrect.

Rosie's method doesn't always work. It works when multiplying or dividing both the numerator or denominator but not when adding or subtracting the same thing to both.

2.

Ron thinks you can only simplify even numbered fractions because you keep on halving the numerator and denominator until you get an odd number.

Do you agree?
Explain your answer.

2.

Ron thinks you can only simplify even numbered fractions because you keep on halving the numerator and denominator until you get an odd number.

Do you agree?
Explain your answer.

Ron is wrong. For example $\frac{3}{9}$ can be simplified to $\frac{1}{3}$ and these are all odd numbers.

3. Here are some fraction cards.
All of the fractions are equivalent.

$\frac{4}{A}$ $\frac{B}{C}$ $\frac{20}{50}$

A + B = 16
Calculate the value of C.

3. Here are some fraction cards.
All of the fractions are equivalent.

$\frac{4}{A}$ $\frac{B}{C}$ $\frac{20}{50}$

A + B = 16
Calculate the value of C.

A = 10

B = 6

C = 15

4. Hamza states that 9/18 is equivalent to 12/ 21. Is Hamza correct? If not what has he done wrong? Can you correct where he has gone wrong.

4. Hamza states that 9/18 is equivalent to 12/ 21. Is Hamza correct? If not what has he done wrong? Can you correct where he has gone wrong.

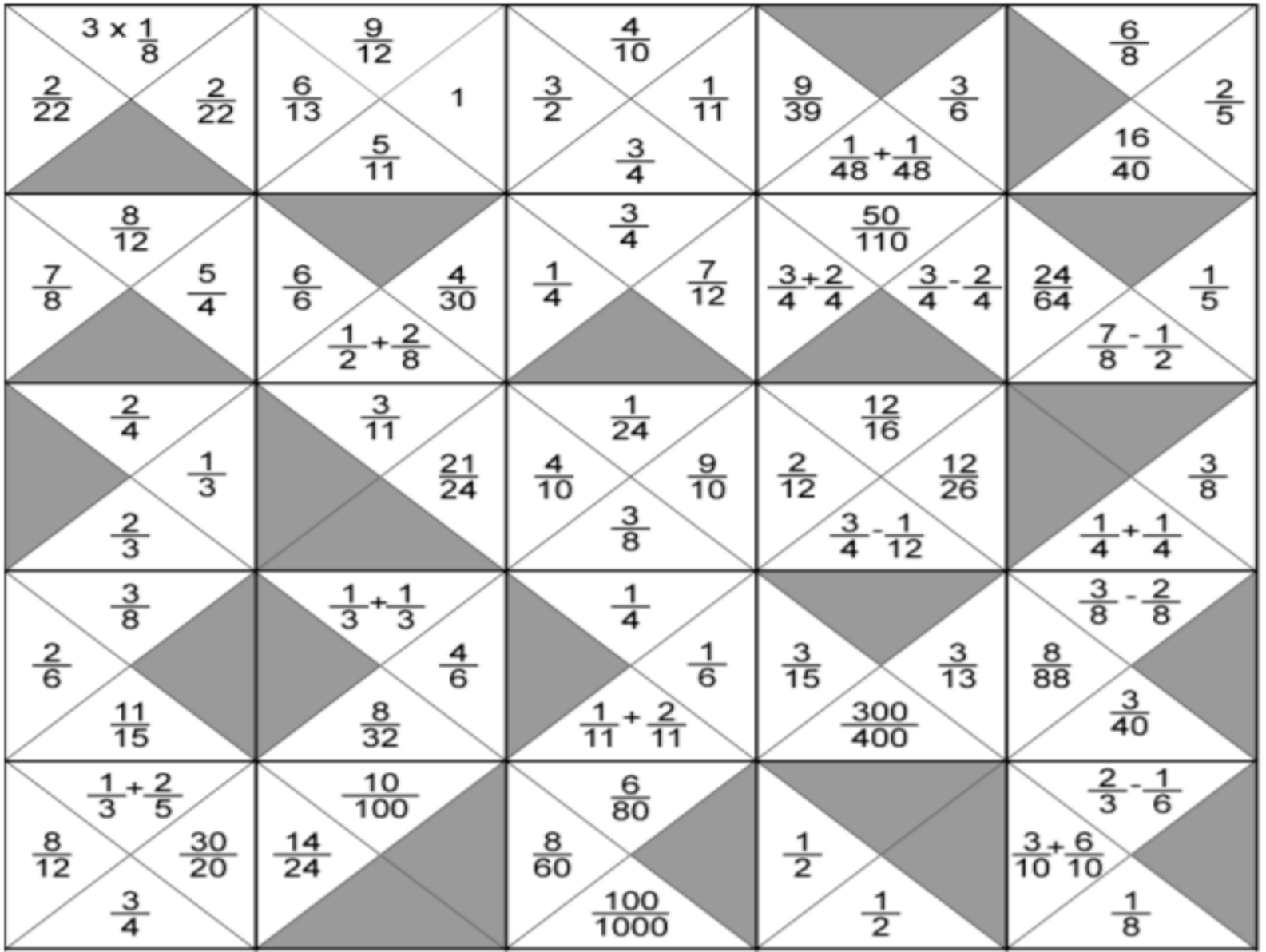
Hamza is wrong because he has just added 3 to both the numerator and denominator. The rule is only use multiplication or division when finding equivalent fractions. 9/18 can be equivalent to 3/6 or 1/2.

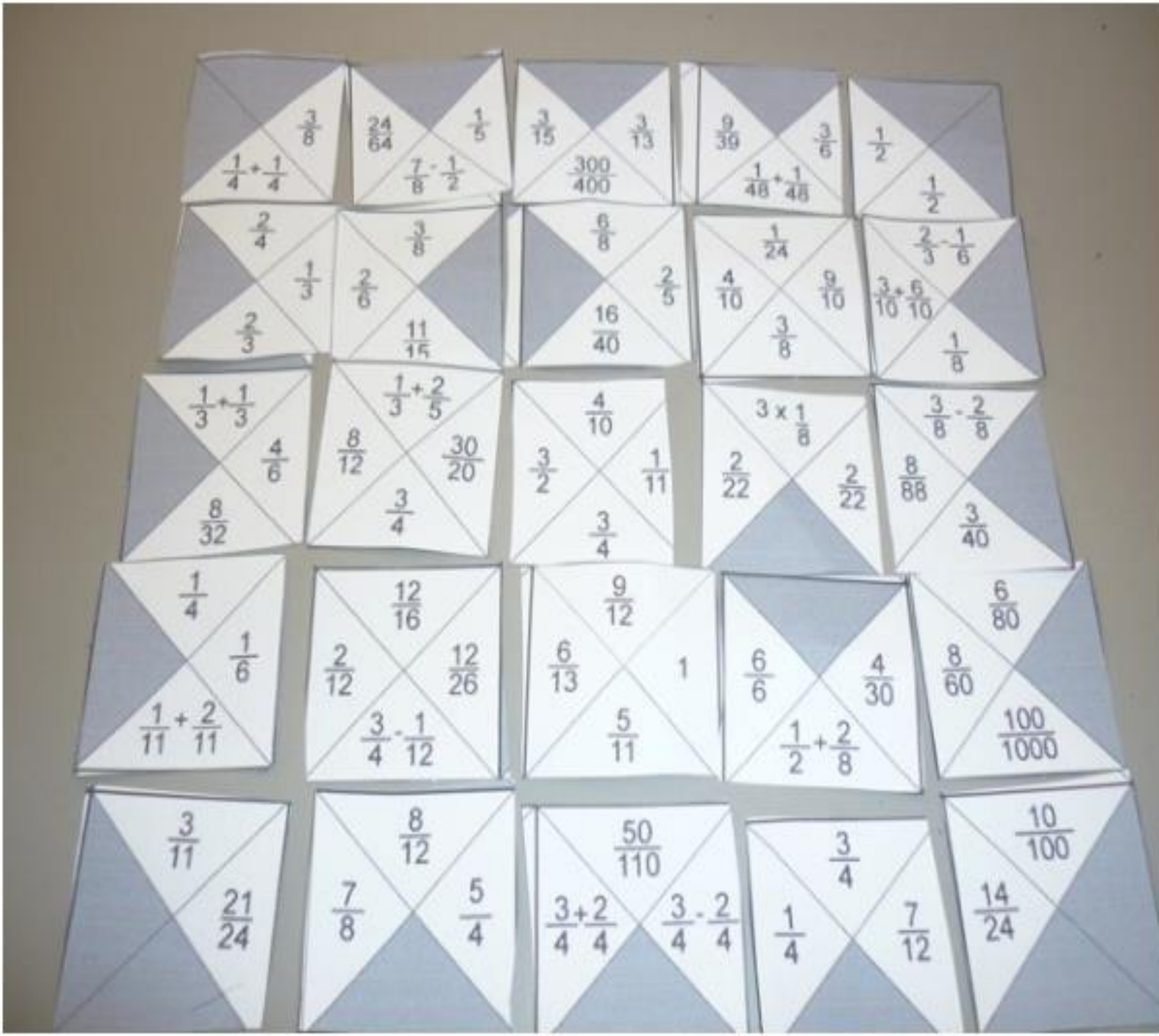
Fractions Jigsaw

Cut up the pieces below into squares (don't cut along the diagonal lines!)

Now try to put the 25 square pieces together without rotating any of them (so that in the finished jigsaw all the numbers are the right way up).

Rule: two pieces may only go next to each other if the edges that touch contain fractions that are equivalent.




3/8
1/4 + 1/4
24/64
1/5
7/8 - 1/2
3/15
3/13
300/400
9/39
3/6
1/48 + 1/48
1/2
1/2
2/4
1/3
2/3
3/8
2/6
11/15
6/8
2/5
16/40
1/24
4/10
9/10
3/8
2/3 - 1/6
3/10 + 6/10
1/8
1/3 + 1/3
4/6
8/32
1/3 + 2/5
8/12
30/20
3/4
4/10
3/2
1/11
3/4
3 x 1/8
2/22
2/22
3/8 - 2/8
8/88
3/40
1/4
1/6
1/11 + 2/11
12/16
2/12
12/26
3/4 - 1/12
9/12
6/13
1
5/11
6/6
4/30
1/2 + 2/8
6/80
8/60
100/1000
3/11
21/24
8/12
7/8
5/4
50/110
3/4 + 2/4
3/4 - 2/4
3/4
1/4
7/12
10/100
14/24

Review
Teach it!

Choose a question you struggled with and explain the steps you took to work it out.

Arithmetic practice
BIDMAS
20.10.20

You think you can just do your sums in any order you like?
THINK AGAIN!
Listen up!

Bidmas

To help us remember the order we use the word BIDMAS

B	Brackets first
I	Then Indices (another name for powers e.g. 3^2)
D	Then Division
M	Then Multiplication
AS	Do adding and subtracting together at the end, going left to right

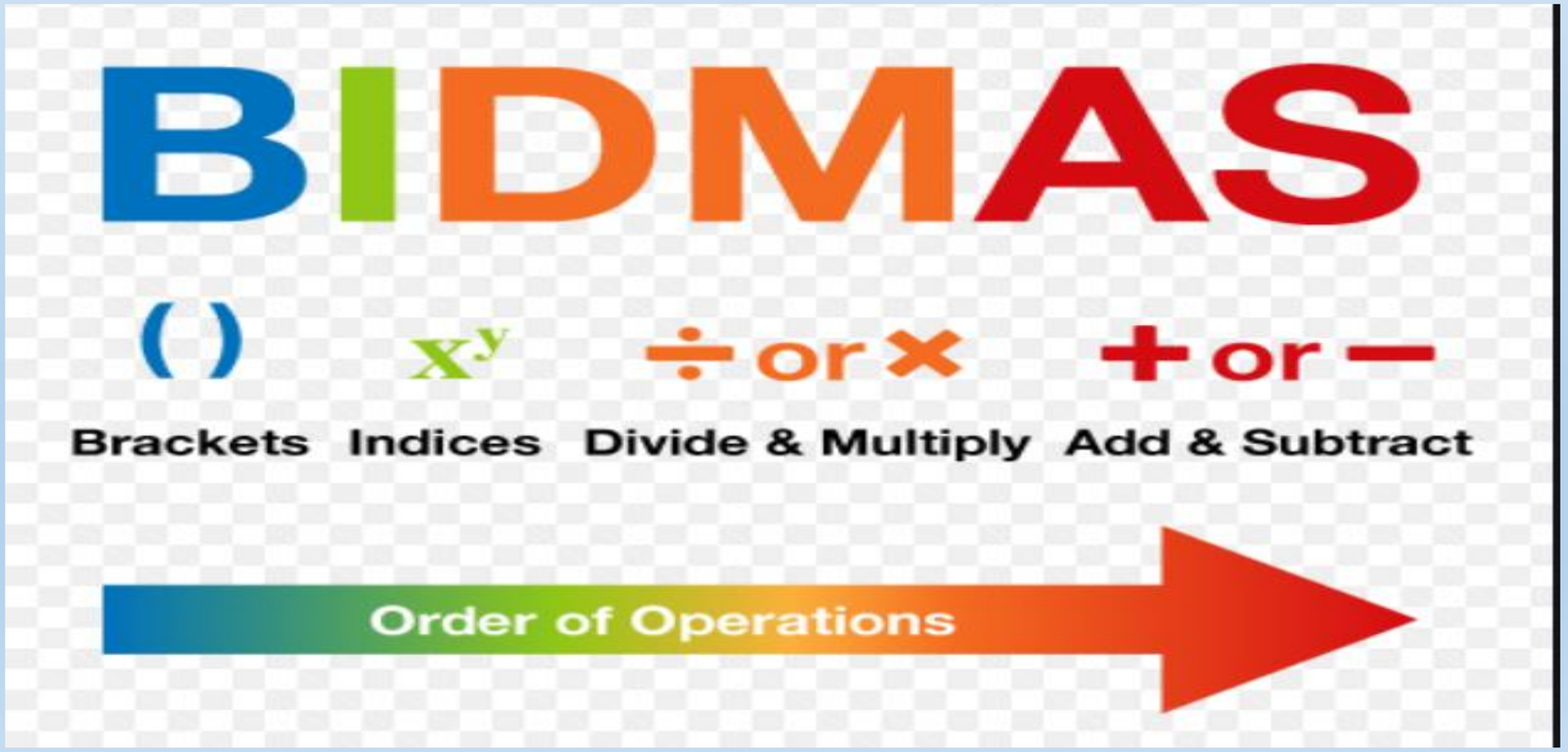
Bidmas

To help us remember the order we use the word BIDMAS

This tells us the order we can do the calculation in.

B	Brackets first
I	Then Indices (another name for powers e.g. 3^2)
D	Then Division
M	Then Multiplication
AS	Do adding and subtracting together at the end, going left to right

Here are some examples on how to use BIDMAS.
A good tip is to underline the bit you are going to do first in the calculation and then work your way step by step using the order of BIDMAS.



$$(3 + 4) \times 5 =$$

Which part of the calculation would we start with?

B I D M A S

$(3 + 4) \times 5 =$

B I D M A S

We would start by doing the calculation in the brackets first as that is the order given by BIDMAS.

$(3 + 4) \times 5 =$

B I D M A S

$3 + 4 = 7$

$(3 + 4) \times 5 =$

B I D M A S

Then, we would multiply the answer by 5, why? Because that is the next operation in the order of BIDMAS.

$(3 + 4) \times 5 =$

B I D M A S

$7 \times 5 = 35$

The answer to this calculation is 35.

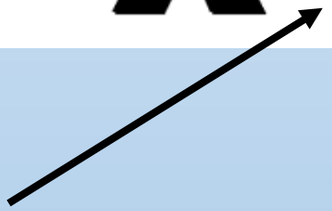
What about this calculation?

$$4 \times 3^2 =$$

B I D M A S

We would start by calculating the indices first, because the indices come before multiplication in the order of BIDMAS.

$$4 \times 3^2 =$$



B I D M A S

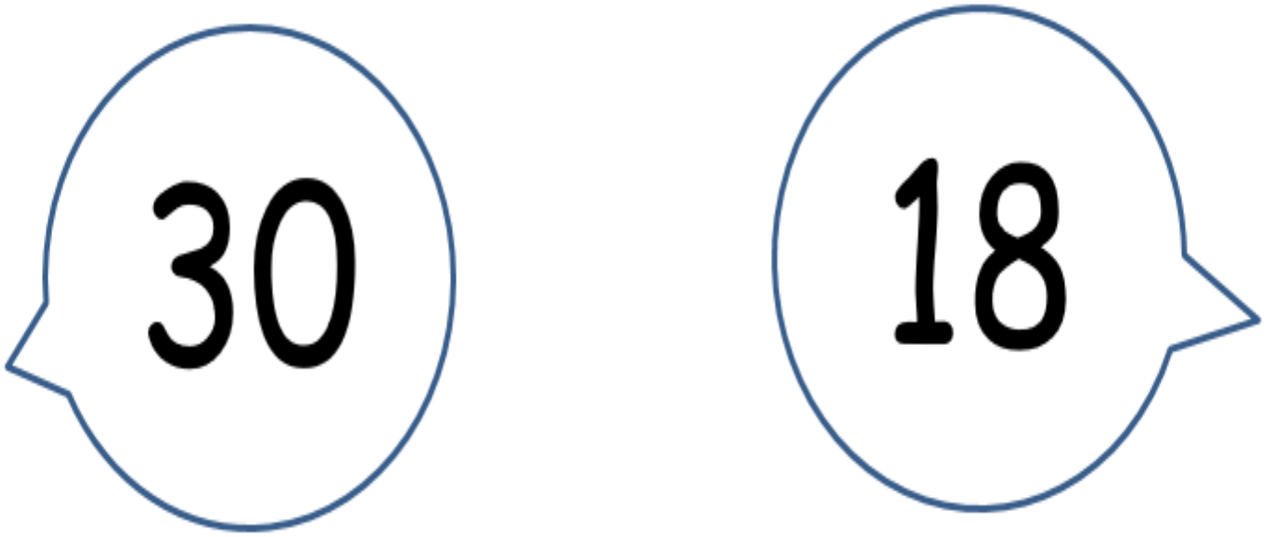
3 squared is: 3 x 3= 9

Then we would multiply the 9 by 4 = 36

$$4 \times 3^2 =$$

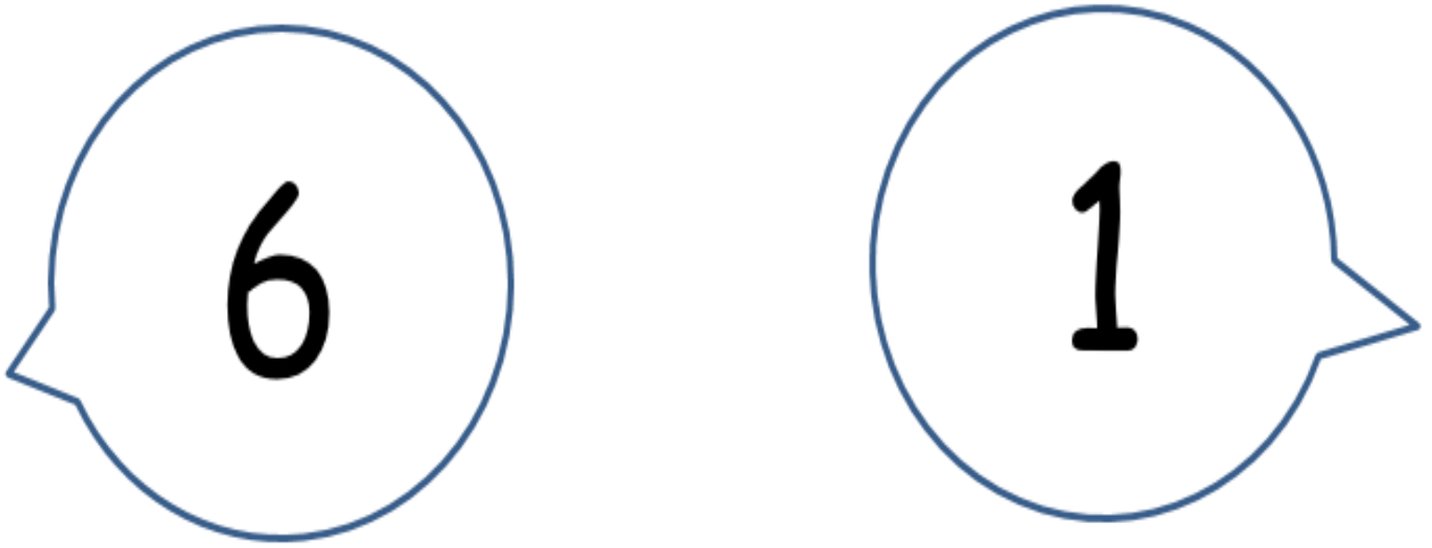
B I D M A S

$$6 + 4 \times 3 =$$



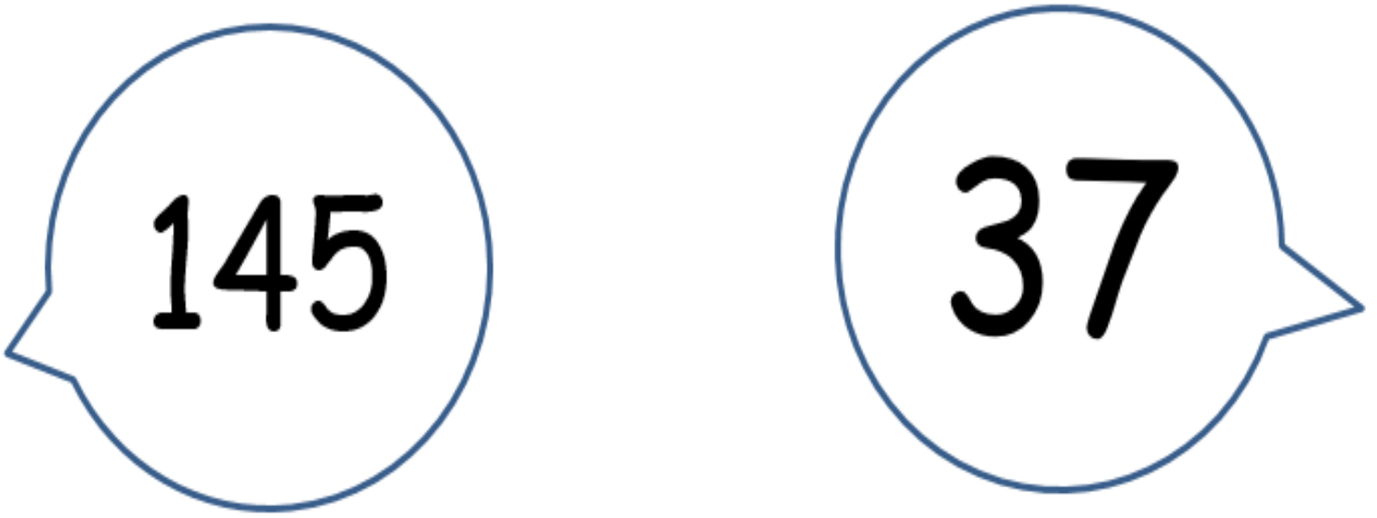
What do you think?

$$10 - 8 \div 2 =$$



What do you think?

$$1 + 4 \times 3^2 =$$



What do you think?

Copy each calculation and circle the operation that you do first. Then work out each one.

a $2 + 3 \times 6$ b $12 - 6 \div 3$ c $5 \times 5 + 2$ d $12 \div 4 - 2$

e $(2 + 3) \times 6$ f $(12 - 3) \div 3$ g $5 \times (5 + 2)$ h $12 \div (4 - 2)$

a $2 + 3 \times 6 = 20$

b $12 - 6 \div 3 = 10$

c $5 \times 5 + 2 = 27$

d $12 \div 4 - 2 = 1$

e $(2 + 3) \times 6 = 30$

f $(12 - 3) \div 3 = 3$

g $5 \times (5 + 2) = 35$

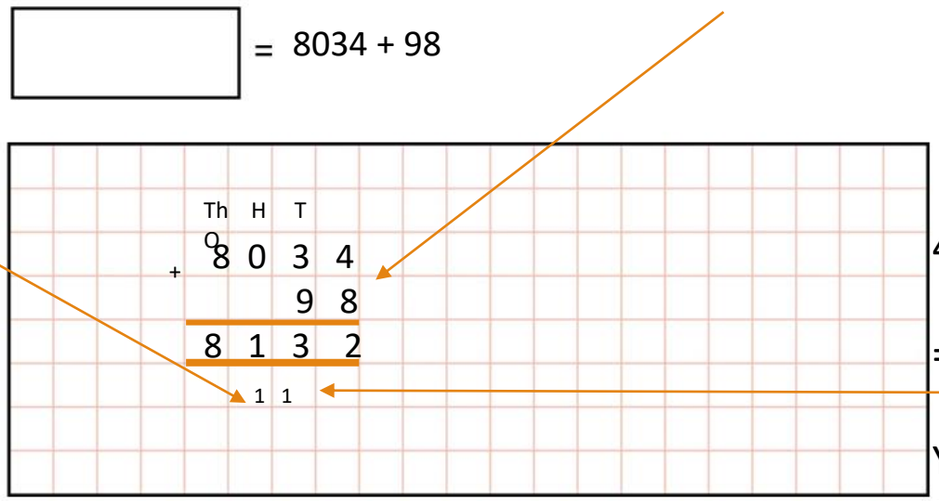
h $12 \div (4 - 2) = 6$

Arithmetic

WEDNESDAY 21ST OCTOBER 2020

Align the digits so that they are in the correct column and place value.

Q1.



Next we add the tens column.

3 tens + 9 tens + 1 tens(regrouped earlier) = 13 tens.

This is the same as 1 hundred and 3 tens. We can't place the 1 hundred in the tens column! So we must regroup it with the hundreds.

4 + 8 = 12

= 1 ten and 2 ones.

You cannot place the 1 tens in the ones column! So you must regroup it with the tens. (exchange)

First, we must multiply all of our top row by the number in the ‘ones’ column.

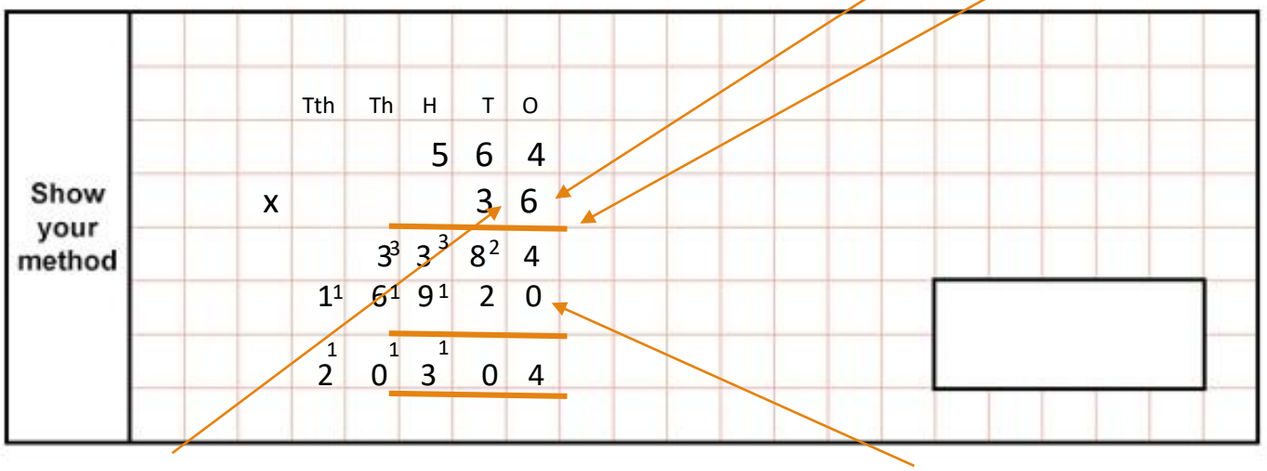
6 x 4= 24
6 x 6= 36
6 x 5 = 30
6 x 4 = 24

= 2 tens and 4 ones.

You cannot place the 2 tens in the ones column! So you must regroup it with the tens. (exchange)

Q13.

5 6 4
× 3 6

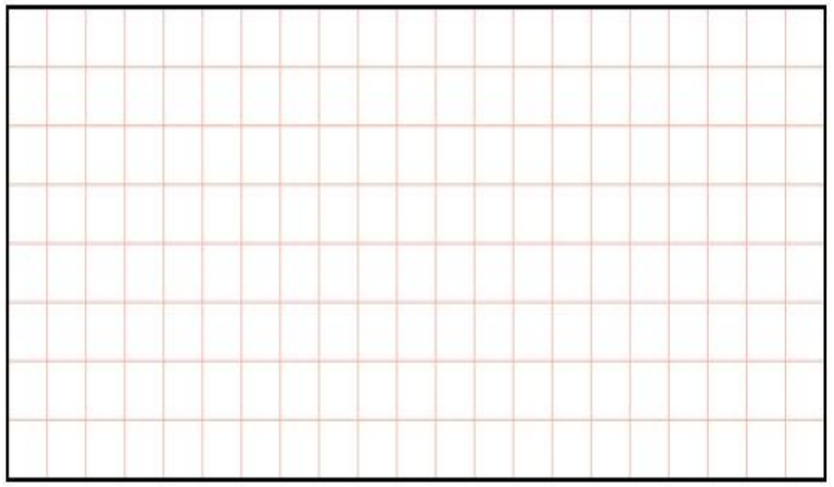


Next, we must multiply all of our top row by the number in the ‘tens’ column.

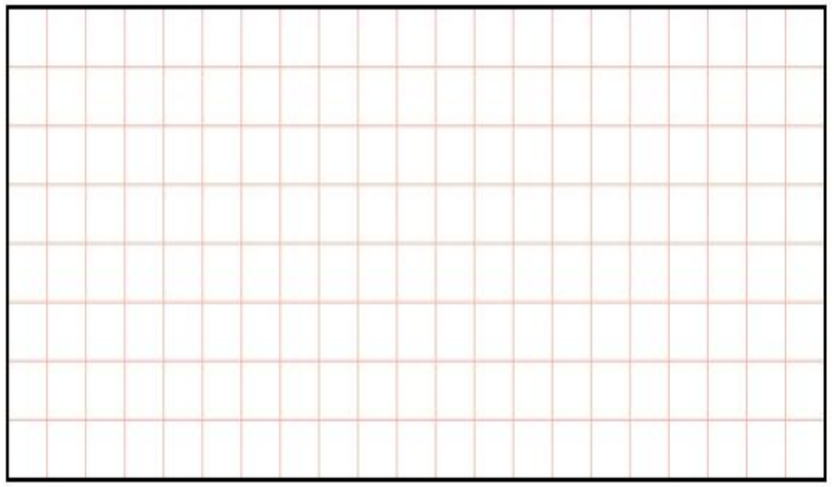
30 x 4 = 120
30 x 60 = 1800
30 x 500 = 1500

When multiplying by ‘tens’ we need to insert a place holder ‘0’ because we aren’t multiplying 3 by 4. We are actually multiplying 30 by 4!

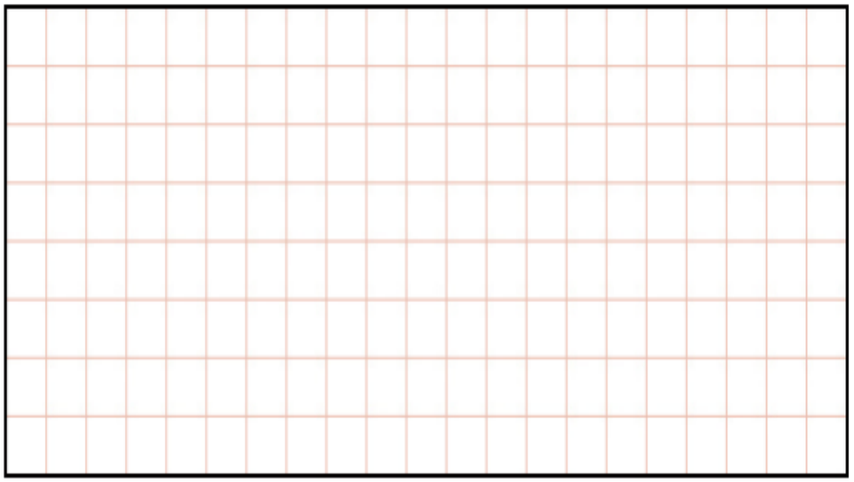
1. $39 + 673 =$ ☐



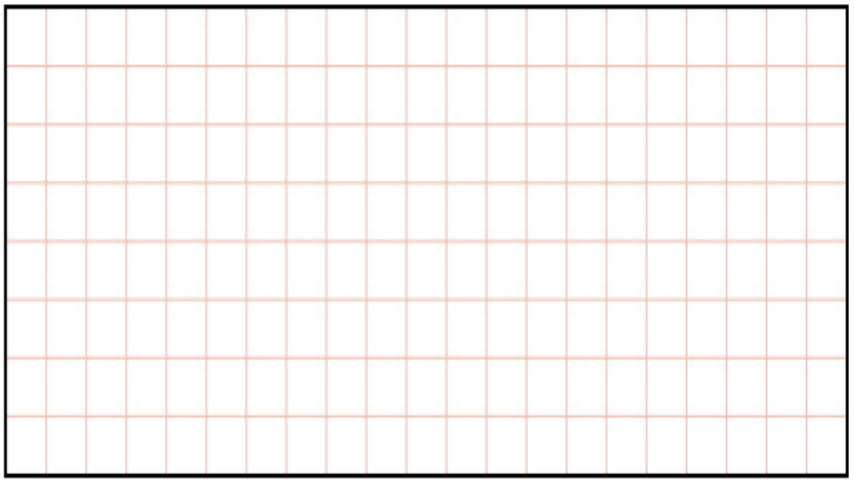
2. $213 \times 0 =$ ☐



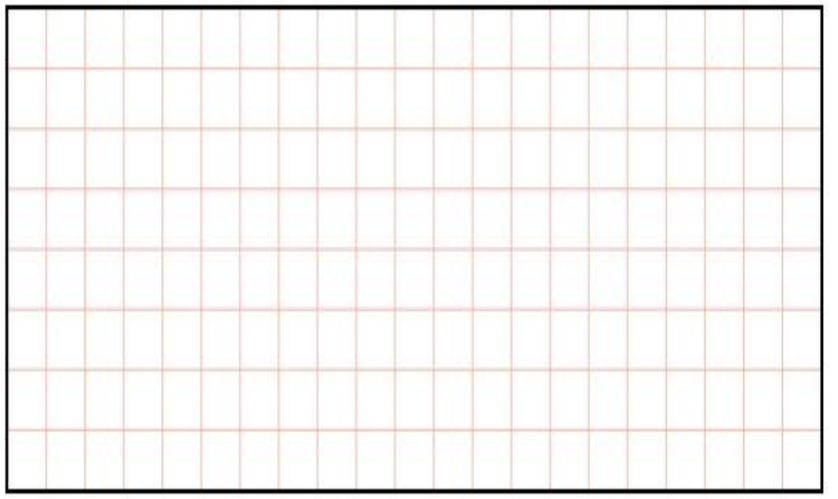
3. $50{,}000 - 500 =$ ☐



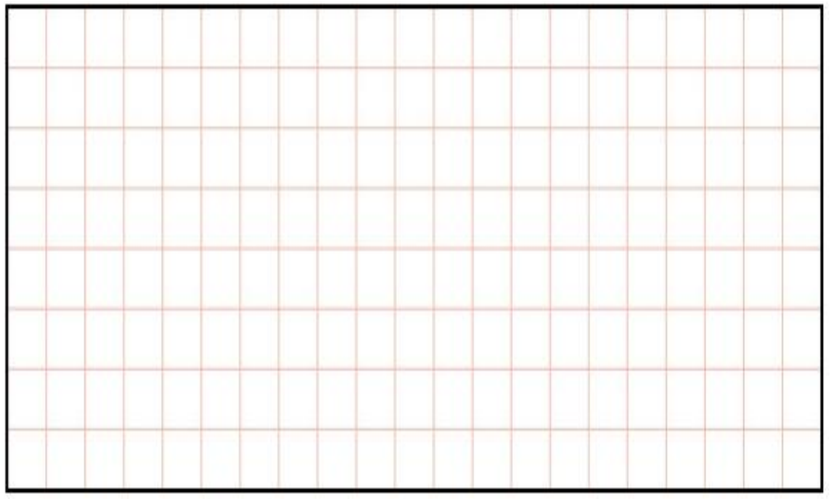
4. $472 - 9 =$ ☐



5. $91 \div 7 =$ ☐

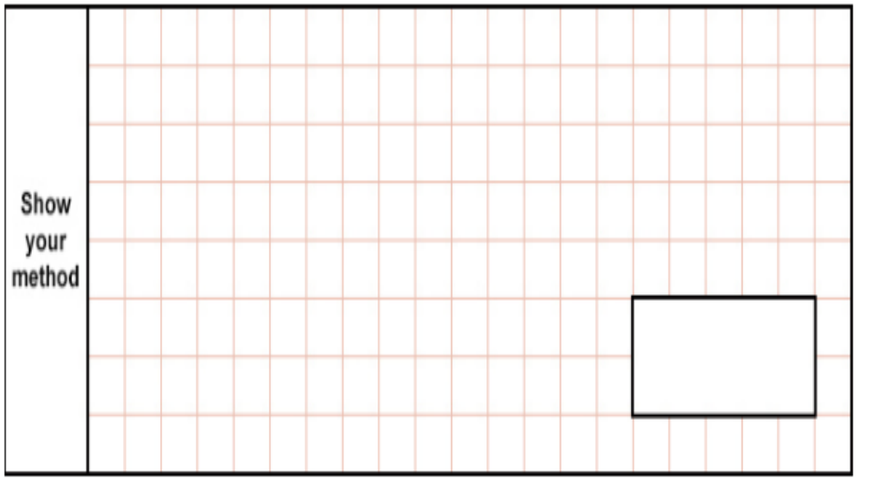


6. $167 \times 4 =$ ☐



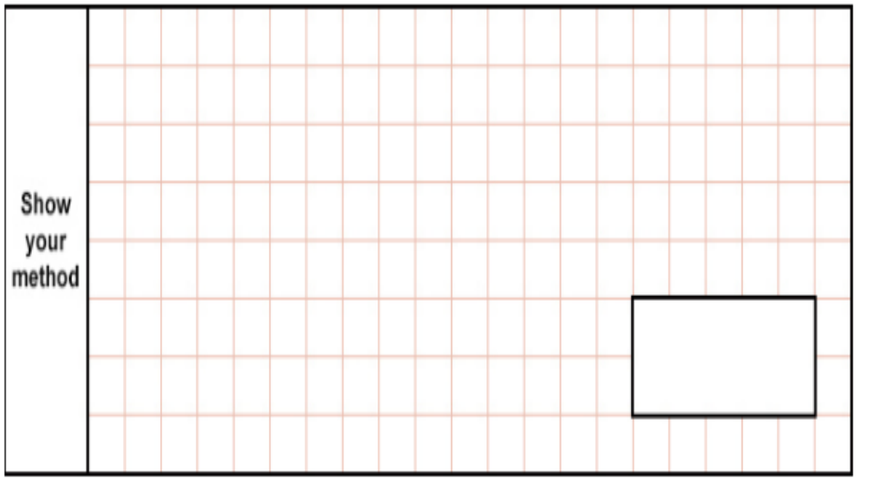
7.
$$\begin{array}{r} 785 \\ \times\ 23 \\ \hline \end{array}$$

Show your method

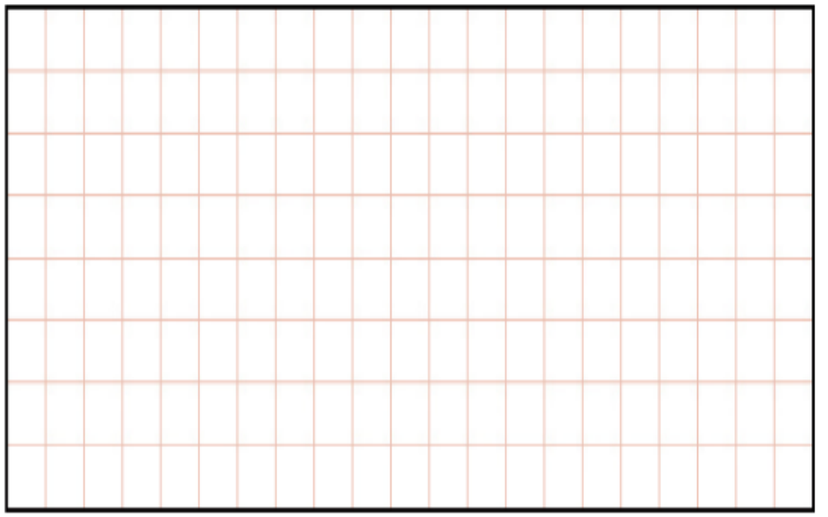


8.
$$\begin{array}{r} 5413 \\ \times\ 86 \\ \hline \end{array}$$

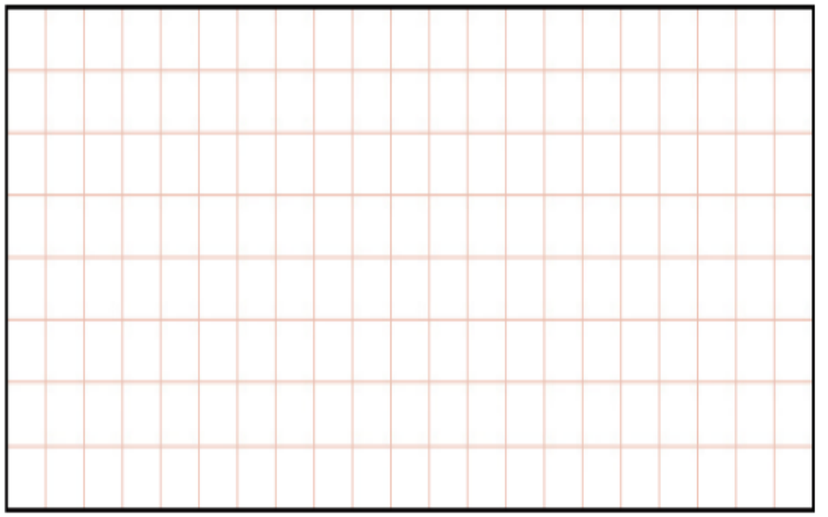
Show your method



9. ☐ = 936 + 285

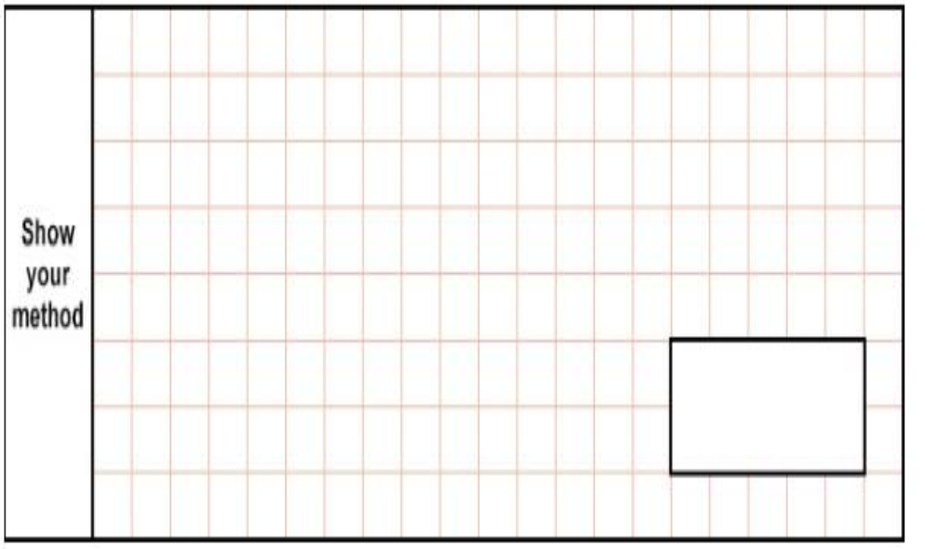


10. 1,210 ÷ 11 = ☐

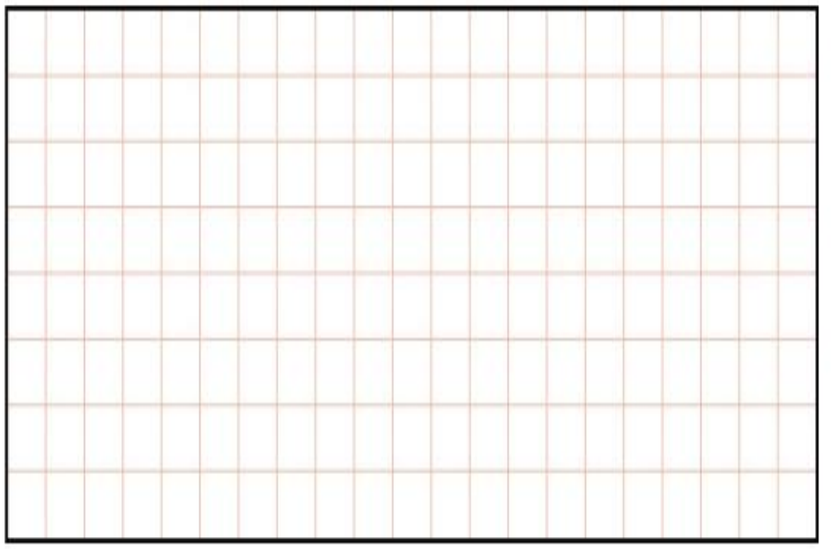


11. $43\overline{)645}$

Show your method



12.
$$\begin{array}{r} 3468 \\ \times\ \ 62 \\ \hline \end{array}$$



13. $97\overline{)8827}$

Show your method	

14. $122{,}456 - 11{,}999 =$ ☐

Answers

Q1.

712

Q2.

0

Q3.

49 500

Q4.

463

Q5.

13

Q6.

668

Q7.

Award TWO marks for the correct answer of 18,055

Q8.

Award TWO marks for the correct answer of 465,518

Q9.

1,221

Q10.

110

Q11.

Award TWO marks for the correct answer of 15

Q13.

Award TWO marks for the correct answer of 91

5,016

Q14.

110,457

Date: 22.10.2020

LO: To use common factors to simplify fractions.

Steps to Success	My Check	Teacher Check
I can use my knowledge of common factors to simplify fractions.		
I can answer word problems involving simplifying fractions.		
I can use my reasoning skills to argue mathematically.		

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

Key vocabulary:

simplify
numerator
denominator
common factor
factor

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in its simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

What is the highest common factor of 6 and 9?

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

What is the highest number that both 6 and 9 can be divided by?
2 and 3 are common factors of 6 and 9 but which one is higher?

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

$\frac{6}{9}$

3 is the highest common factor of 6 and 9 because, 9 and 6 can be divided by 3.
Once you have found the highest common factor, you then divide the numerator and denominator by that number.

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

$$\frac{6 \div 3=}{9 \div 3=}$$

To simplify the fraction- you divide the numerator and denominator by the highest common factor, which is 3.

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

$$\frac{6}{9} \div \frac{3}{3} = \frac{2}{3}$$

6/9 simplified is 2/3!

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

Before we simplify it, we need to find all the common factors of 6 and 18. What are they?

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

2, 3 and 6 are all common factors of 6 and 18!
But which is the highest common factor?

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

2, 3 and 6 are all common factors of 6 and 18!
6 is the highest common factor, what do we
do next?

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

We divide both the numerator and denominator by 6?
So what is 6/18 simplified?

Prepare for Learning

What does to simplify a fraction mean?

Can you simplify both the fractions below?

$\frac{6}{9}$ $\frac{6}{18}$

When you simplify a fraction you write the fraction in it's simplest form. To achieve this you need to divide the numerator and denominator by the highest common factor!

$6 \div 6 = 1$

$18 \div 6 = 3$

6/18 simplified is 1/3!

Core practice!
Simplify the fractions below.

1. $\frac{10}{18}$

2. $\frac{10}{15}$

3. $\frac{15}{50}$

Core practice!
Simplify the fractions below:

1. $\frac{10}{18}$

2. $\frac{10}{15}$

3. $\frac{15}{50}$

5/9

2/3

3/10

Depth

Lisa completes 4/10 of her science project.
Write down how much she has left to complete in its simplest form!

Step 1 - Highlight the key information.

Depth- Teacher model

Lisa completes 4/10 of her science project.
Write down how much she has left to complete in its simplest form!

Depth- Teacher model

Lisa completes 4/10 of her science project.
Write down how much she has left to complete in its simplest form!

6/10 left to complete.
6/10= simplified 3/5
left to complete.

Precore

Simplify the following fractions.

Example:

2/10= Common factor is 2.

2 ÷2= 1

10 ÷ 2= 5

2/10= 1/5

1. 2/8 =
2. 2/4=
3. 2/14=
4. 3/12=
5. 4/20=
6. 5/10=
7. 5/ 25=

Remember to find a common factor first.

Then divide the numerator and denominator by the common factor.

Precore

Simplify the following fractions.

Example:

2/10= Common factor is 2.

2 ÷2= 1

10 ÷ 2= 5

2/10= 1/5

1. 2/8 =
2. 2/4=
3. 2/14=
4. 3/12=
5. 4/20=
6. 5/10=
7. 5/ 25=

Remember to find a common factor first.

Then divide the numerator and denominator by the common factor.

Answers:

1. 1/4
2. 1/2
3. 1/7
4. 1/4
5. 1/5
6. 1/5
7. 1/5

Core

Simplify the following fractions:

1. $\frac{3}{30} =$

2. $\frac{4}{36} =$

3. $\frac{44}{48} =$

4. $\frac{12}{28} =$

5. $\frac{25}{60} =$

6. $\frac{45}{50} =$

Core

Simplify the following fractions:

1. $\frac{3}{30}$ =

2. $\frac{4}{36}$ =

3. $\frac{44}{48}$ =

4. $\frac{12}{28}$ =

5. $\frac{25}{60}$ =

6. $\frac{45}{50}$ =

Answers:

1. 1/10
2. 1/9
3. 11/12
4. 3/7
5. 5/12
6. 9/10

Depth

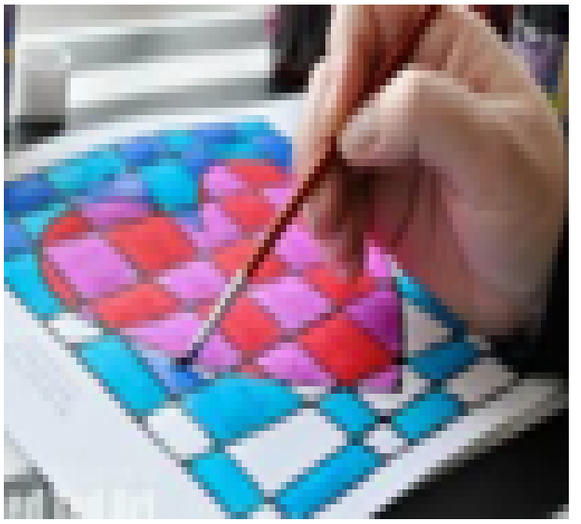
1. Michael has eaten 3/12 of his pizza.
   Write how much he has eaten in its simplest form.

1. Michael has eaten 3/12 of his pizza.
Write how much he has eaten in its simplest form.

1/4

2. Bilal has completed 5/20 of his art project.

Write how much he has left to complete in its simplest form.



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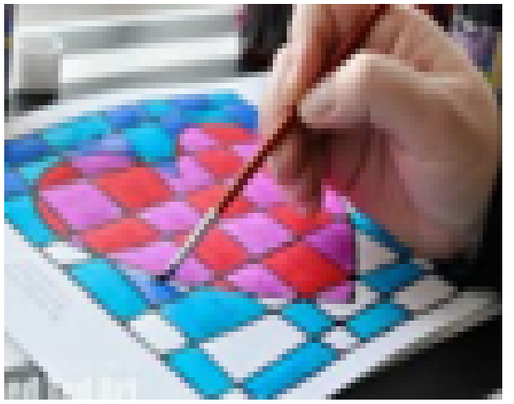


15/20 left to complete.

3/4 simplest form.

3. Riya and Ian both share a blueberry pie. Riya eats 5/25 of the pie, Ian also eats 5/25 of the pie.

a) How much pie have they eaten in total? Write the fraction in its simplest form.

b) How much pie do they have left to eat? Write the fraction in its simplest form.

3. Riya and Ian both share a blueberry pie. Riya eats 5/25 of the pie, Ian also eats 5/25 of the pie.

a) How much pie have they eaten in total? Write the fraction in its simplest form.

b) How much pie do they have left to eat? Write the fraction in its simplest form.

a) 10/25 = 2/5

b) 15/25= 3/5

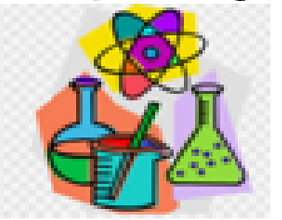
4. Hannah, Rachel and Aisha are completing a big science project together!

Hannah has completed 4/ 30 of the science project.

Rachel has completed 6/30 of the science project.

Aisha has completed 2/30 of the science project.

a) How much of the science project have they completed altogether? Write the fraction in its simplest form.
b) How much of the science project is left to complete? Write the fraction in its simplest form.



4. Hannah, Rachel and Aisha are completing a big science project together!

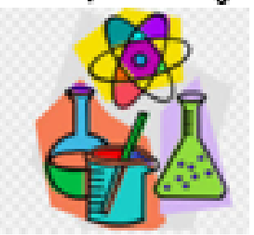
Hannah has completed 4/ 30 of the science project.

Rachel has completed 6/30 of the science project.

Aisha has completed 2/30 of the science project.

a) How much of the science project have they completed altogether? Write the fraction in its simplest form.

b) How much of the science project is left to complete? Write the fraction in its simplest form.



12/30 completed

2/5 completed

18/30 left to complete which is 3/5

Greater Depth

1. Sort the fractions into the table.

Simplifies to $\frac{1}{2}$	Simplifies to $\frac{1}{3}$	Simplifies to $\frac{1}{4}$

$\frac{5}{15}$ $\frac{2}{4}$ $\frac{4}{16}$ $\frac{8}{16}$ $\frac{5}{10}$ $\frac{3}{9}$ $\frac{6}{12}$ $\frac{2}{8}$

Can you see any patterns between the numbers in each column?

What is the relationship between the numerators and denominators?

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Can you see any patterns between the numbers in each column?
What is the relationship between the numerators and denominators?

Simplifies to $\frac{1}{2}$ - $\frac{2}{4}$, $\frac{8}{16}$, $\frac{5}{10}$, $\frac{6}{12}$

Simplifies to $\frac{1}{3}$ - $\frac{5}{15}$, $\frac{3}{9}$

Simplifies to $\frac{1}{4}$ - $\frac{4}{16}$, $\frac{2}{8}$

When a fraction is equivalent to a half, the numerator is half the denominator. Children could also discuss the denominator being double the numerator.

2. Tommy says that if I simplify 6/36, it will be 1/30. Do you agree with Tommy? If not, can you explain what he has done wrong. Correct his mistake.

2. Tommy says that if I simplify 6/36, it will be 1/ 30. Do you agree with Tommy? If not, can you explain what he has done wrong. Correct his mistake.

Tommy has divided the numerator by the common factor of 6, but then he has just subtracted the common factor of 6 from the denominator

Correction: 1/ 5

Review

Post it! Write down one thing you have learnt today.

22.10.2020 Arithmetic Mixed - Long and short division and multiplication.

You will attempt the question first and then mark it in purple pen, make sure you correct your mistakes as we go along.

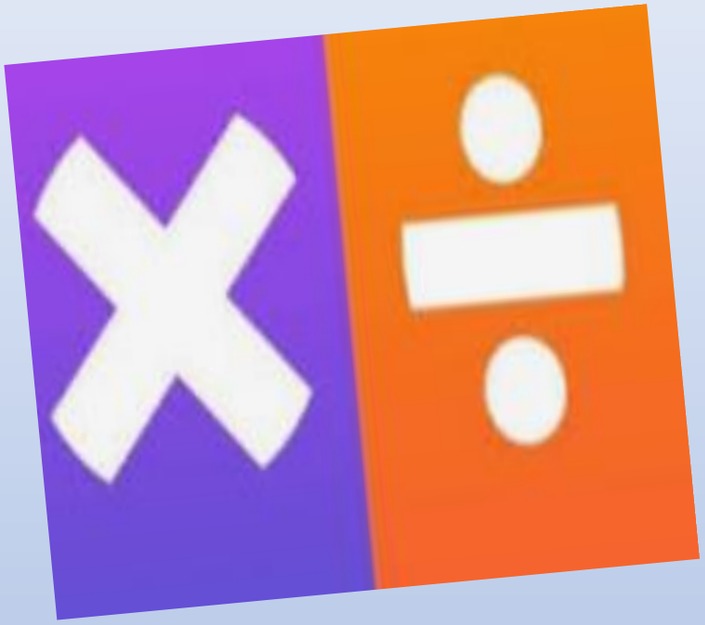
1.

$9 \times 41 =$ 

369

2. .

$91 \div 7 =$ ☐



2. .

13

3. .

$$\begin{array}{r} 836 \\ \times\ \ 27 \\ \hline \end{array}$$

3. .

Award **TWO** marks for the correct answer of 22,572

4. .

$$37\overline{)888}$$

4. .

Award **TWO** marks for the correct answer of 24

5.

$$\begin{array}{r} 3468 \\ \times \quad 62 \\ \hline \end{array}$$

5.

Award **TWO** marks for the correct answer of 215,016

6.

$$83\overline{)8051}$$

6.

Award **TWO** marks for the correct answer of 97

7.

$2 \times 45 =$ ☐

7.

90

8.

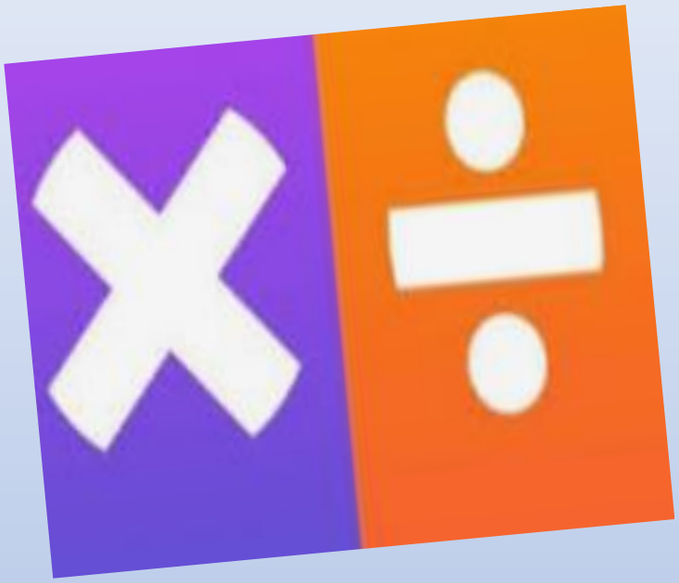
$270 \div 3 =$

8.

90

9.

$167 \times 4 =$ ☐



9.

668

10.

$581 \div 7 =$ ☐

10.

83