What are Fractions?

A fraction is part of a whole. For example if you cut a cake into 8 pieces and eat 3 pieces you eat $^{3}/_{8}$ of the cake.

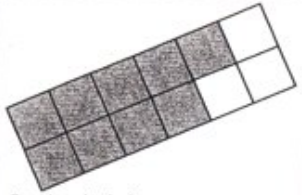
See if you can work these fractions out.

1. If you have 20 lollies in a bag and eat 7 of them you eat _____ of them.
2. If there are 14 pies on a tray and you eat 2 of them you have eaten _____ of the pies.
3. If you eat $^{8}/_{15}$ of a pizza you have cut a pizza into _____ pieces and eaten _____ parts. When you have finished $^{7}/_{15}$ of the pizza will still be there.
4. If you eat $^{11}/_{24}$ of a cake you have cut it into _____ pieces and eaten _____ parts. When you have finished ___/___ of the cake will still be there.

Next to the shapes below write down the fraction that has been shaded in and the fraction remaining.

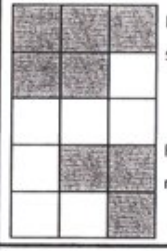
Fraction shaded ____________

Fraction remaining ____________



Fraction shaded ____________

Fraction remaining ____________

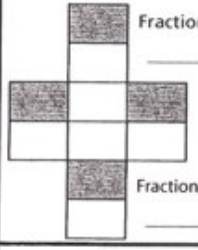


Fraction shaded ____________

Fraction remaining ____________

Fraction shaded ____________

Fraction remaining ____________

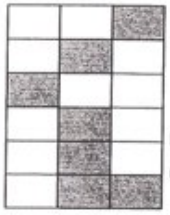


Fraction shaded ____________

Fraction remaining ____________

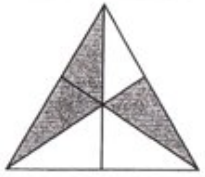
Fraction shaded ____________

Fraction remaining ____________



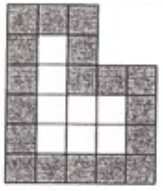
Fraction shaded ____________

Fraction remaining ____________



Fraction shaded ____________

Fraction remaining ____________



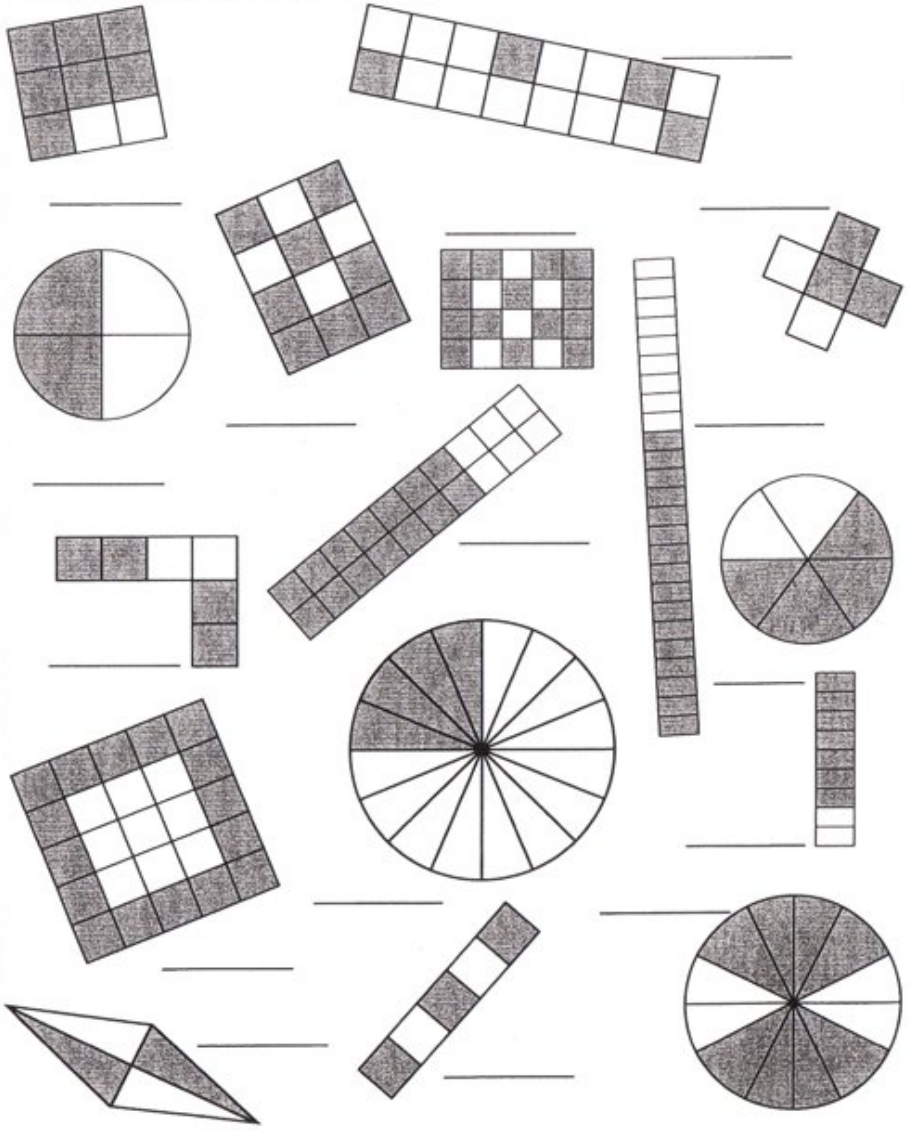
Fraction shaded ____________

Fraction remaining ____________

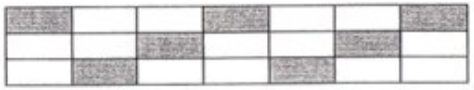
Identifying Fractions

There are 16 objects below. Work out the fraction of each object that has been shaded. If your answers are correct there should be 8 pairs of identical fractions.

Can you draw lines that link these identical fractions?



Finding Fractions by Shading



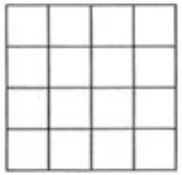
It is easy to find a fraction of many numbers. Find $^1/_3$ of 21 by shading in 1 out of every 3 parts and counting them. The answer is 7.

EXAMPLE

Shade 2 out of every 3 squares to find $^2/_3$ of 12

= 8

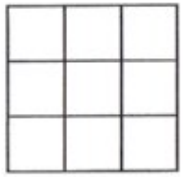
4.



Shade 3 out of every 8 squares to find $^3/_8$ of 16

= _____

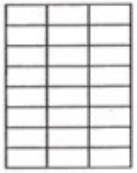
8.



Find $^2/_3$ of 9 by shading.

_____

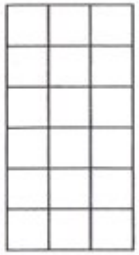
1.



Find $^5/_{12}$ of 24 by shading.

_____

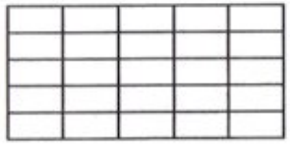
5.



Find $^4/_9$ of 18 by shading.

_____

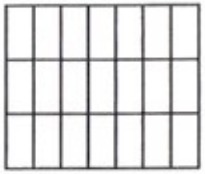
9.



Find $^2/_5$ of 25 by shading.

_____

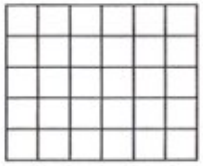
2.



Find $^2/_3$ of 21 by shading.

_____

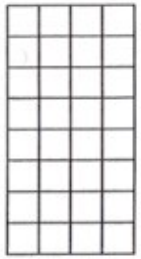
6.



Find $^5/_6$ of 30 by shading.

_____

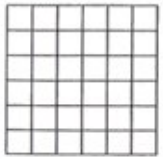
10.



Find $^3/_4$ of 32 by shading.

_____

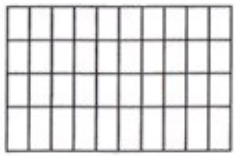
3. $^2/_3$ of a class of 36 turn up to school.



How many students is that?

_____

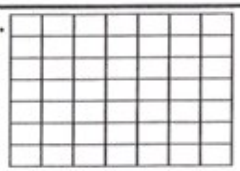
7.



You win $^4/_5$ of $40! How much is that?

_____

11.



You sell $^2/_7$ of 49 concert tickets. How many tickets is that?

_____

Finding a Fraction of a Number

$^1/_4$ of 64 means 64 divided into 4 equal amounts with one of these parts being 16.

$$\begin{array}{r} 16 \\ 4\overline{)64} \end{array} \quad \text{(or } 64 \div 4 = 16\text{)}$$

- **$^2/_4$ will be 2 x 16 = 32**
- **$^3/_4$ will be 3 x 16 = 48**

See if you can find the required fractions below.

1.

$^1/_5$ of 25 = ____	$^2/_5$ of 25 = ____	$^3/_5$ of 25 = ____	$^4/_5$ of 25 = ____	$^5/_5$ of 25 = ____

2.

$^1/_6$ of 42 = ____	$^2/_6$ of 42 = ____	$^3/_6$ of 42 = ____	$^4/_6$ of 42 = ____	$^5/_6$ of 42 = ____	$^6/_6$ of 42 = ____

3.

$^1/_4$ of 60 = ____	$^2/_4$ of 60 = ____	$^3/_4$ of 60 = ____	$^4/_4$ of 60 = ____

4.

$^1/_3$ of 21 = ____	$^2/_3$ of 21 = ____	$^3/_3$ of 21 = ____

5.

$^1/_7$ of 28 = ____	$^2/_7$ of 28 = ____	$^3/_7$ of 28 = ____	$^4/_7$ of 28 = ____	$^5/_7$ of 28 = ____	$^6/_7$ of 28 = ____	$^7/_7$ of 28 = ____

6.

$^1/_5$ of 45 = ____	$^2/_5$ of 45 = ____	$^3/_5$ of 45 = ____	$^4/_5$ of 45 = ____	$^5/_5$ of 45 = ____

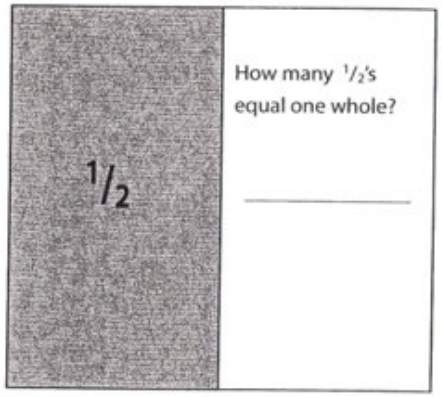
7.

$^1/_6$ of 36 = ____	$^2/_6$ of 36 = ____	$^3/_6$ of 36 = ____	$^4/_6$ of 36 = ____	$^5/_6$ of 36 = ____	$^6/_6$ of 36 = ____

8.

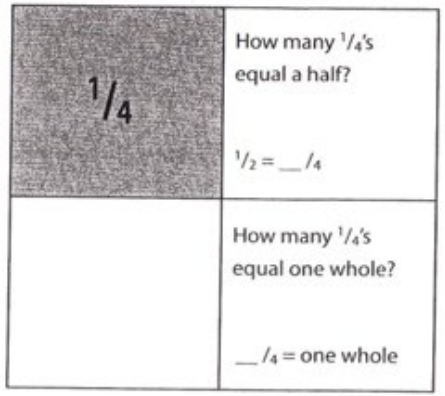
$^1/_4$ of 40 = ____	$^2/_4$ of 40 = ____	$^3/_4$ of 40 = ____	$^4/_4$ of 40 = ____

Finding Equivalent Fractions 1



How many $^1/_2$'s equal one whole?

_____

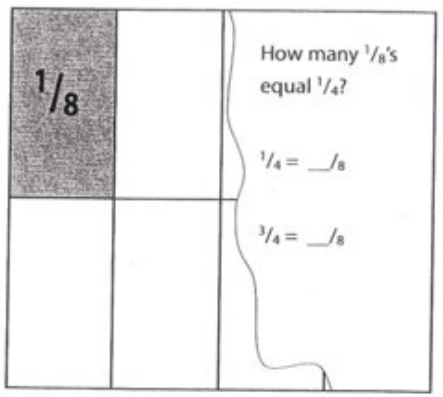


How many $^1/_4$'s equal a half?

$^1/_2 = \_\_/_4$

How many $^1/_4$'s equal one whole?

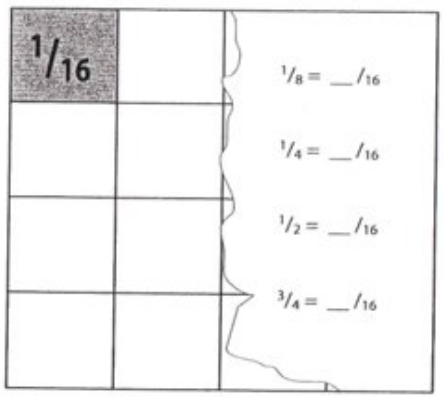
$\_\_/_4$ = one whole



How many $^1/_8$'s equal $^1/_4$?

$^1/_4 = \_\_/_8$

$^3/_4 = \_\_/_8$

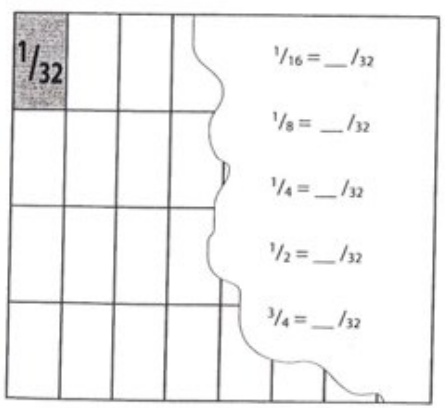


$^1/_8 = \_\_/_{16}$

$^1/_4 = \_\_/_{16}$

$^1/_2 = \_\_/_{16}$

$^3/_4 = \_\_/_{16}$



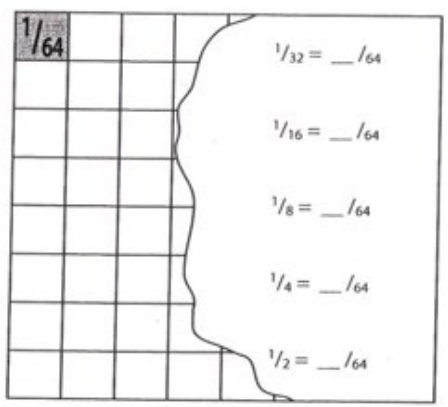
$^1/_{16} = \_\_/_{32}$

$^1/_8 = \_\_/_{32}$

$^1/_4 = \_\_/_{32}$

$^1/_2 = \_\_/_{32}$

$^3/_4 = \_\_/_{32}$



$^1/_{32} = \_\_/_{64}$

$^1/_{16} = \_\_/_{64}$

$^1/_8 = \_\_/_{64}$

$^1/_4 = \_\_/_{64}$

$^1/_2 = \_\_/_{64}$

$^1/_2 = \_\_/_4 = \_\_/_8 = \_\_/_{16} = \_\_/_{32} = \_\_/_{64}$

$^3/_4 = \_\_/_8 = \_\_/_{16} = \_\_/_{32} = \_\_/_{64}$

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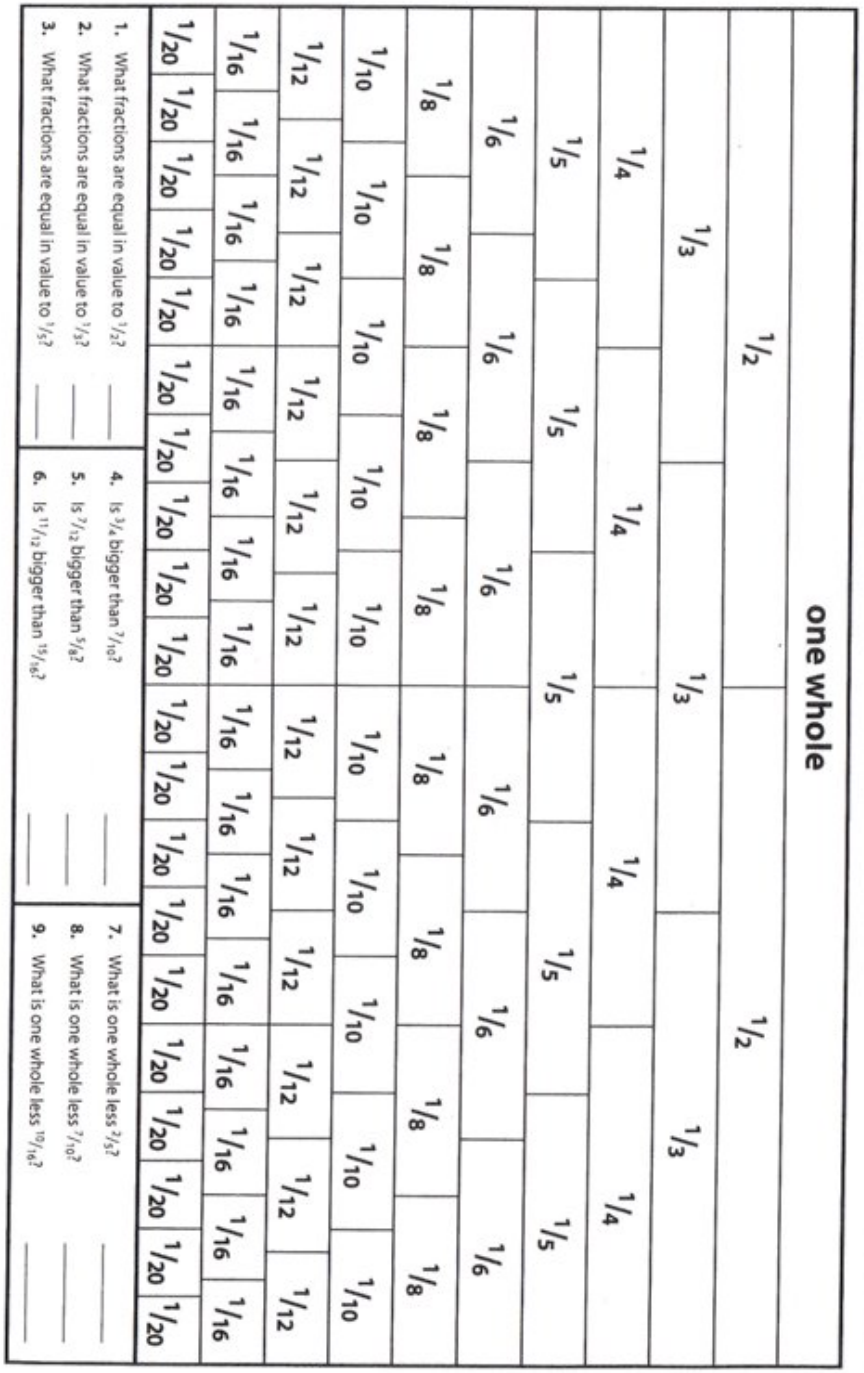
Finding Equivalent Fractions 2



1. What fractions are equal in value to $^1/_2$? _____
2. What fractions are equal in value to $^1/_3$? _____
3. What fractions are equal in value to $^1/_5$? _____
4. Is $^3/_4$ bigger than $^7/_{10}$? _____
5. Is $^7/_{12}$ bigger than $^5/_8$? _____
6. Is $^{11}/_{12}$ bigger than $^{15}/_{16}$? _____
7. What is one whole less $^2/_5$? _____
8. What is one whole less $^7/_{10}$? _____
9. What is one whole less $^{10}/_{16}$? _____

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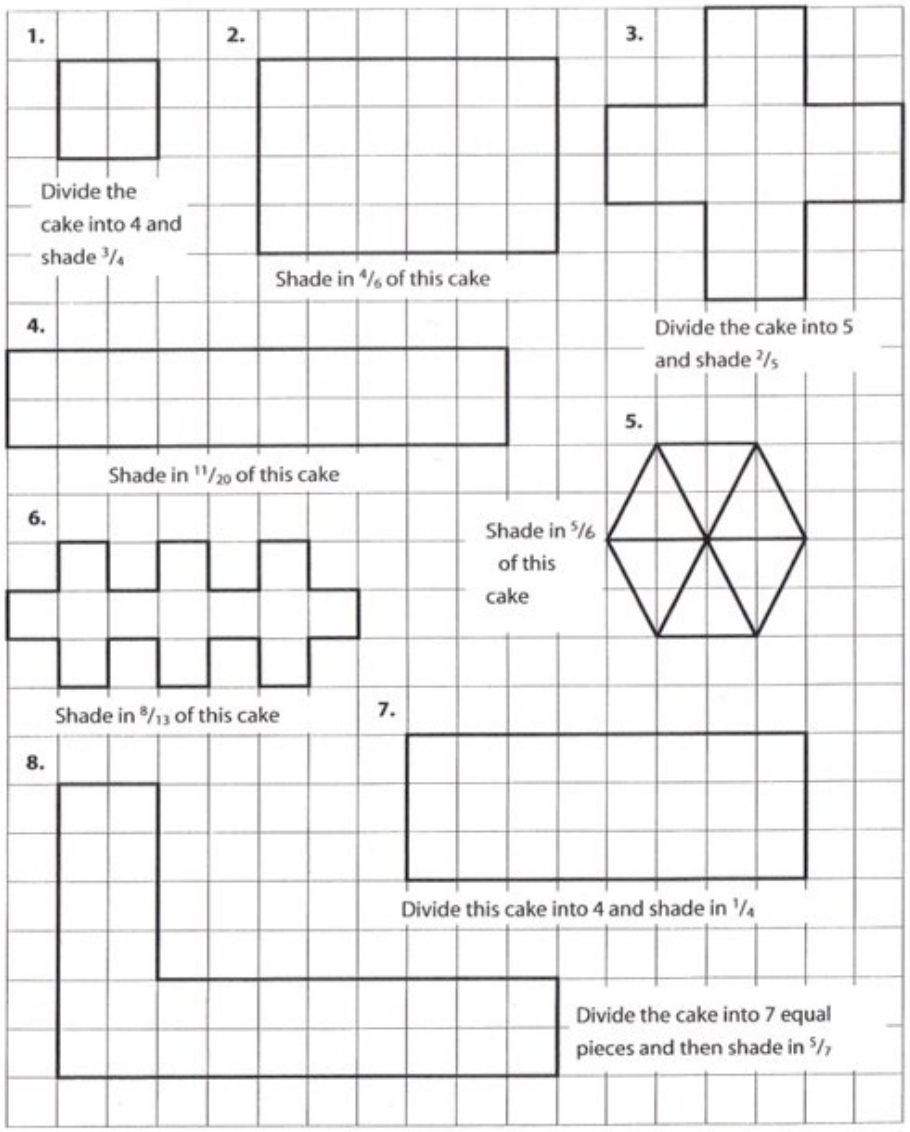
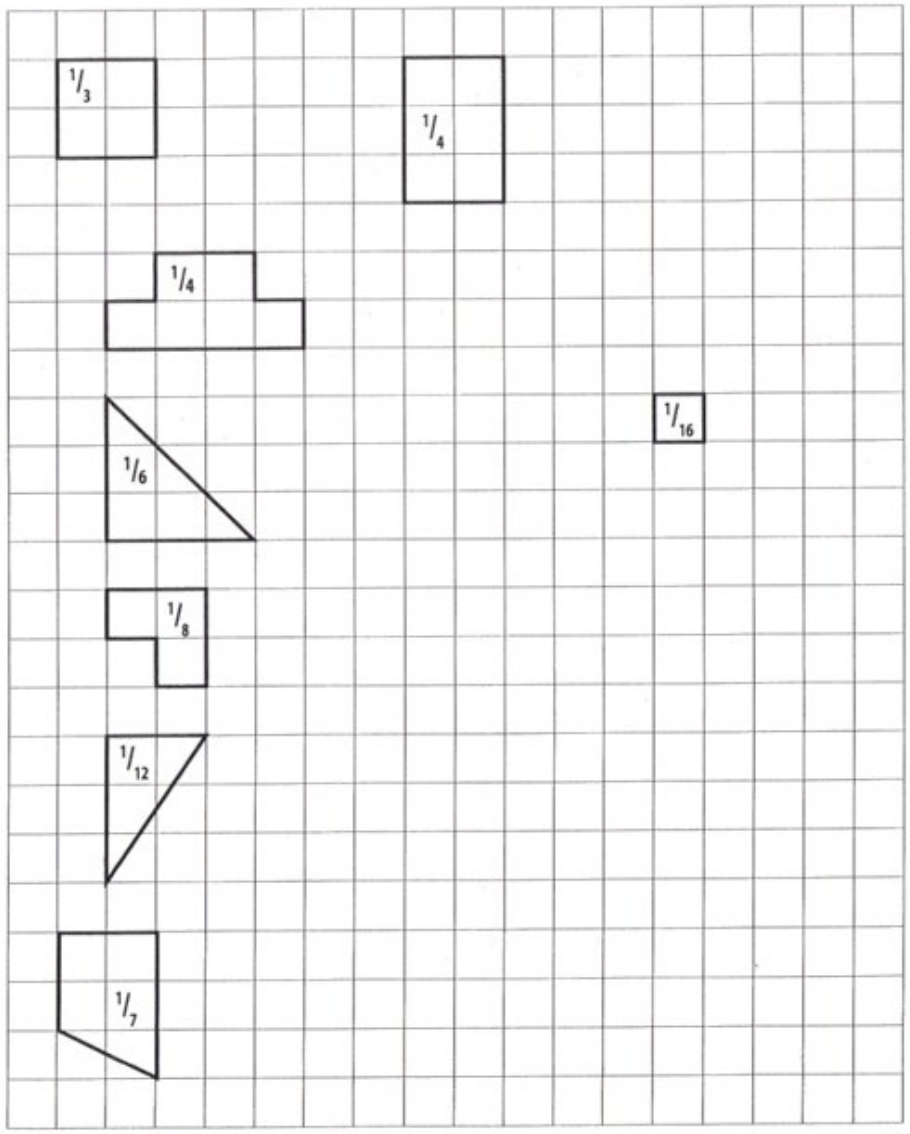
Cake Fractions

Imagine all the shapes below are interesting cakes! How would you cut them up to give the required fraction? The number on the bottom is the number of pieces a cake is cut into and the top number of the fraction is the number of pieces you want!



Fraction Shapes

The shapes below are only a fraction of their full shape. Can you complete the shape? There may be more than one way of doing it!



What are Fractions?

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See if you can work these fractions out.

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3. If you eat $^{8}/_{15}$ of a pizza you have cut a pizza into _____ pieces and eaten _____ parts. When you have finished $^{7}/_{15}$ of the pizza will still be there.
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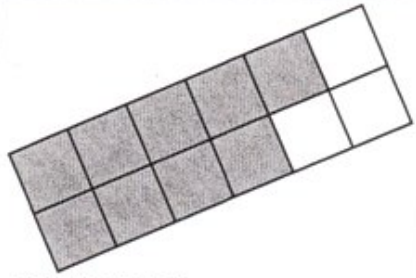
Next to the shapes below write down the fraction that has been shaded in and the fraction remaining.

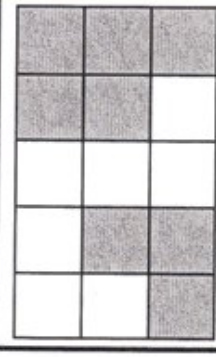
Fraction shaded ______________

Fraction remaining ____________



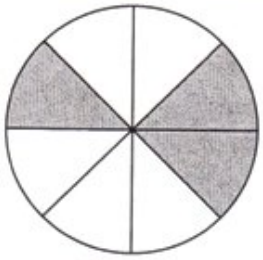
Fraction shaded ______________

Fraction remaining ____________



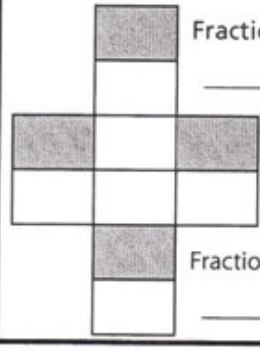
Fraction shaded ___________

Fraction remaining ___________



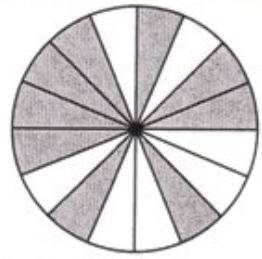
Fraction shaded ______________

Fraction remaining ____________



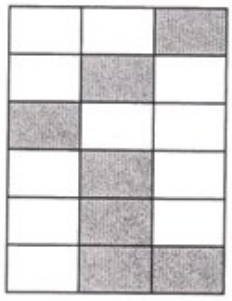
Fraction shaded ___________

Fraction remaining ___________



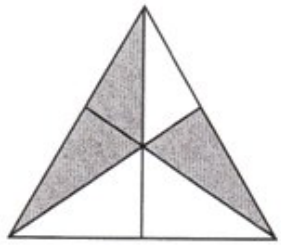
Fraction shaded ______________

Fraction remaining ____________



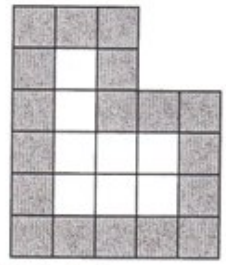
Fraction shaded ___________

Fraction remaining ___________



Fraction shaded ______________

Fraction remaining ____________



Fraction shaded ______________

Fraction remaining ____________

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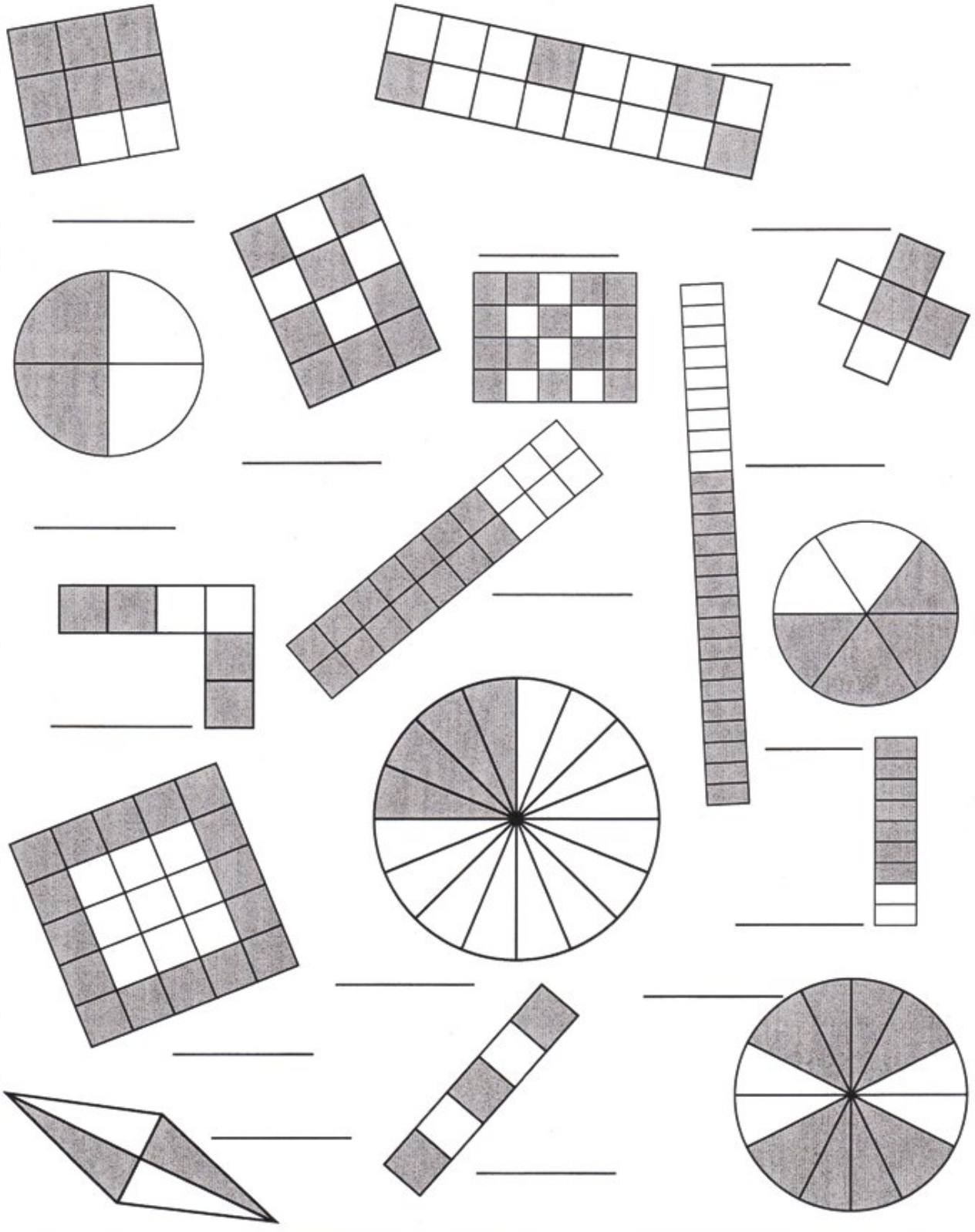
Identifying Fractions

There are 16 objects below. Work out the fraction of each object that has been shaded. If your answers are correct there should be 8 pairs of identical fractions.

Can you draw lines that link these identical fractions?



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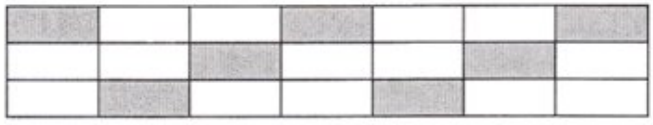
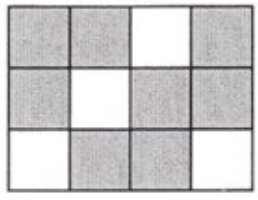
Finding Fractions by Shading



It is easy to find a fraction of many numbers. Find $^1/_3$ of 21 by shading in 1 out of every 3 parts and counting them. The answer is 7.

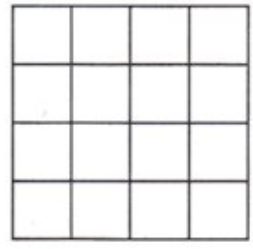
EXAMPLE



Shade 2 out of every 3 squares to find $^2/_3$ of 12

= 8

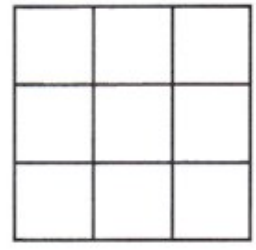
4.



Shade 3 out of every 8 squares to find $^3/_8$ of 16

= _____

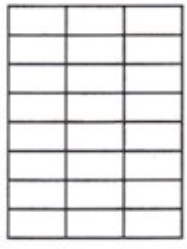
8.



Find $^2/_3$ of 9 by shading.

_____

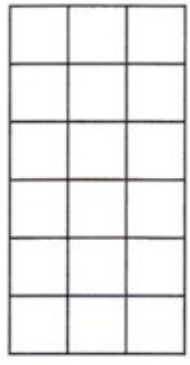
1.



Find $^5/_{12}$ of 24 by shading.

_____

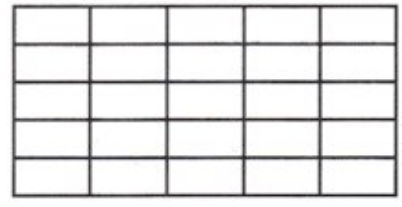
5.



Find $^4/_9$ of 18 by shading.

_____

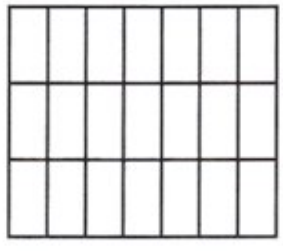
9.



Find $^2/_5$ of 25 by shading.

_____

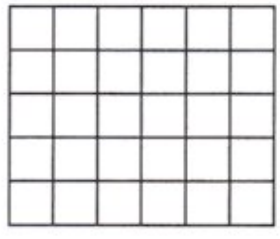
2.



Find $^2/_3$ of 21 by shading.

_____

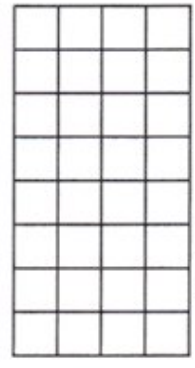
6.



Find $^5/_6$ of 30 by shading.

_____

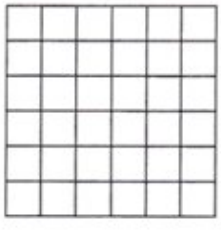
10.



Find $^3/_4$ of 32 by shading.

_____

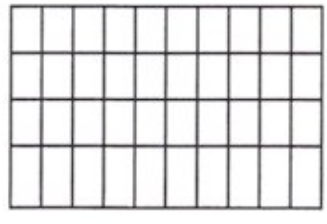
3. $^2/_3$ of a class of 36 turn up to school.



How many students is that?

_____

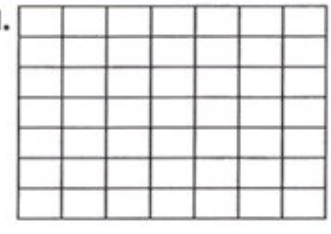
7.



You win $^4/_5$ of $40! How much is that?

_____

11.



You sell $^2/_7$ of 49 concert tickets. How many tickets is that?

_____

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Finding a Fraction of a Number

$^1/_4$ of 64 means 64 divided into 4 equal amounts with one of these parts being 16.

$$\begin{array}{r} 16 \\ 4\overline{)64} \end{array} \quad \text{(or } 64 \div 4 = 16\text{)}$$

- **$^2/_4$ will be 2 x 16 = 32**
- **$^3/_4$ will be 3 x 16 = 48**

See if you can find the required fractions below.

1. $^1/_5$ of 25 = ____	$^2/_5$ of 25 = ____	$^3/_5$ of 25 = ____	$^4/_5$ of 25 = ____	$^5/_5$ of 25 = ____

2. $^1/_6$ of 42 = ____	$^2/_6$ of 42 = ____	$^3/_6$ of 42 = ____	$^4/_6$ of 42 = ____	$^5/_6$ of 42 = ____	$^6/_6$ of 42 = ____

3. $^1/_4$ of 60 = ____	$^2/_4$ of 60 = ____	$^3/_4$ of 60 = ____	$^4/_4$ of 60 = ____

4. $^1/_3$ of 21 = ____	$^2/_3$ of 21 = ____	$^3/_3$ of 21 = ____

5. $^1/_7$ of 28 = ____	$^2/_7$ of 28 = ____	$^3/_7$ of 28 = ____	$^4/_7$ of 28 = ____	$^5/_7$ of 28 = ____	$^6/_7$ of 28 = ____	$^7/_7$ of 28 = ____

6. $^1/_5$ of 45 = ____	$^2/_5$ of 45 = ____	$^3/_5$ of 45 = ____	$^4/_5$ of 45 = ____	$^5/_5$ of 45 = ____

7. $^1/_6$ of 36 = ____	$^2/_6$ of 36 = ____	$^3/_6$ of 36 = ____	$^4/_6$ of 36 = ____	$^5/_6$ of 36 = ____	$^6/_6$ of 36 = ____

8. $^1/_4$ of 40 = ____	$^2/_4$ of 40 = ____	$^3/_4$ of 40 = ____	$^4/_4$ of 40 = ____

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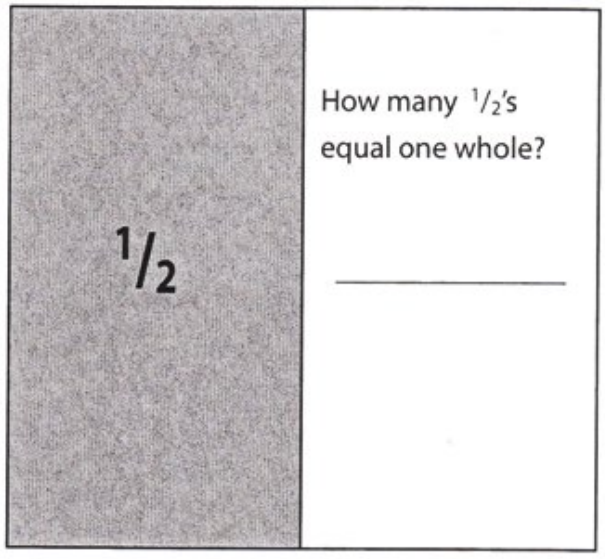
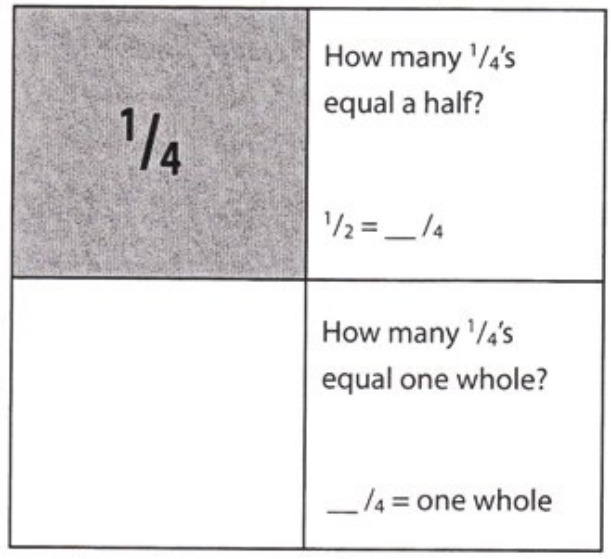
Finding Equivalent Fractions 1



How many $^1/_2$'s equal one whole?

_____

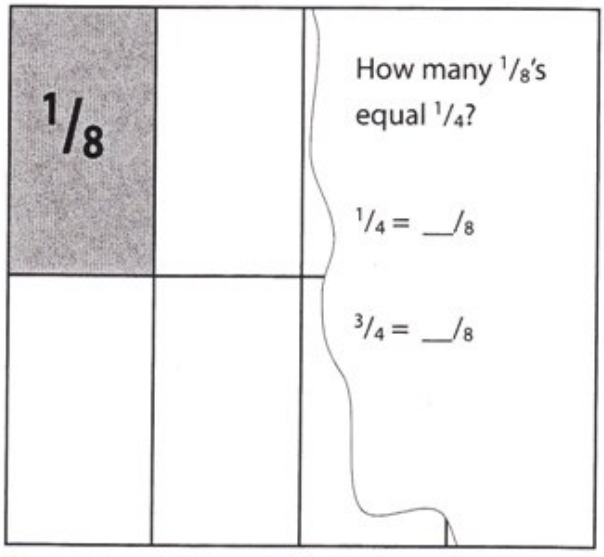


How many $^1/_4$'s equal a half?

$^1/_2$ = __ /4

How many $^1/_4$'s equal one whole?

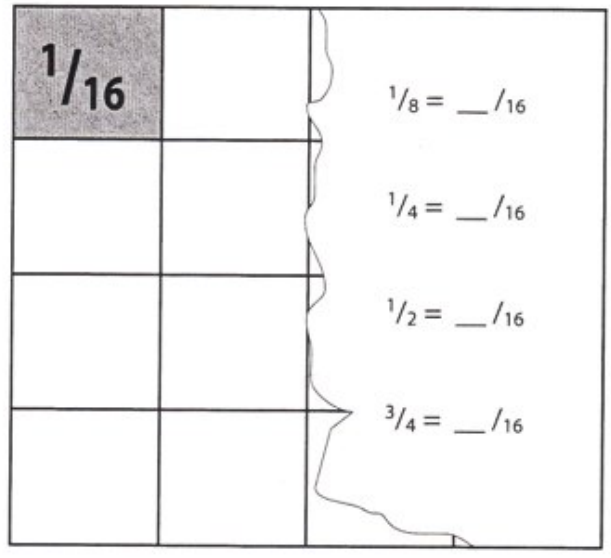
__ /4 = one whole



How many $^1/_8$'s equal $^1/_4$?

$^1/_4$ = __ /8

$^3/_4$ = __ /8

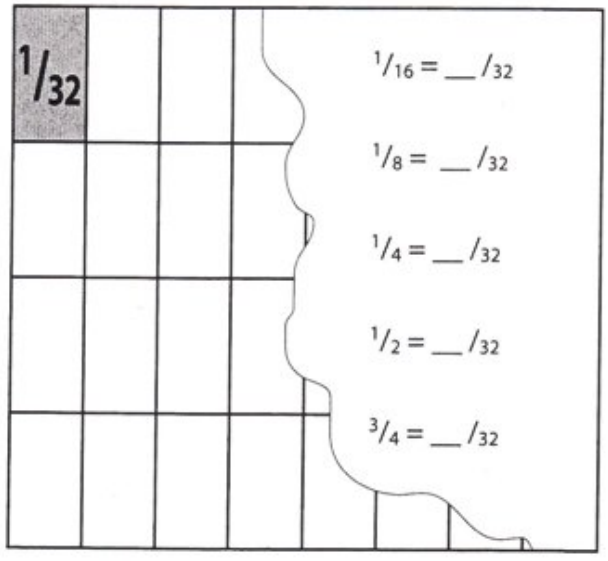


$^1/_8$ = __ /16

$^1/_4$ = __ /16

$^1/_2$ = __ /16

$^3/_4$ = __ /16



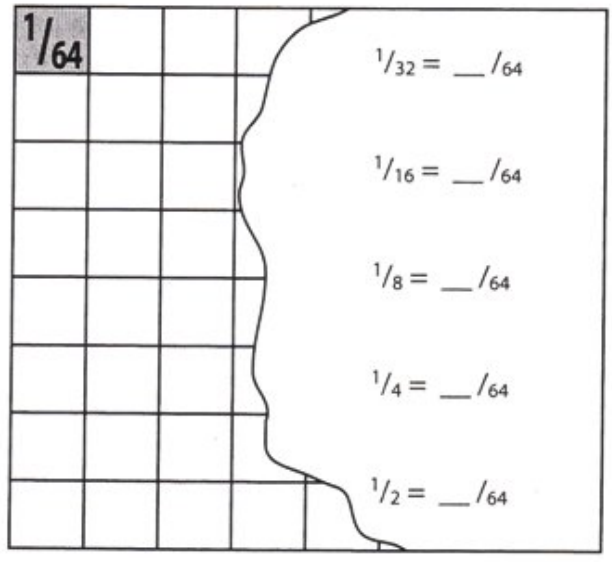
$^1/_{16}$ = __ /32

$^1/_8$ = __ /32

$^1/_4$ = __ /32

$^1/_2$ = __ /32

$^3/_4$ = __ /32



$^1/_{32}$ = __ /64

$^1/_{16}$ = __ /64

$^1/_8$ = __ /64

$^1/_4$ = __ /64

$^1/_2$ = __ /64

$^1/_2$ = __ /4 = __ /8 = __ /16 = __ /32 = __ /64

$^3/_4$ = __ /8 = __ /16 = ___ /32 = __ /64

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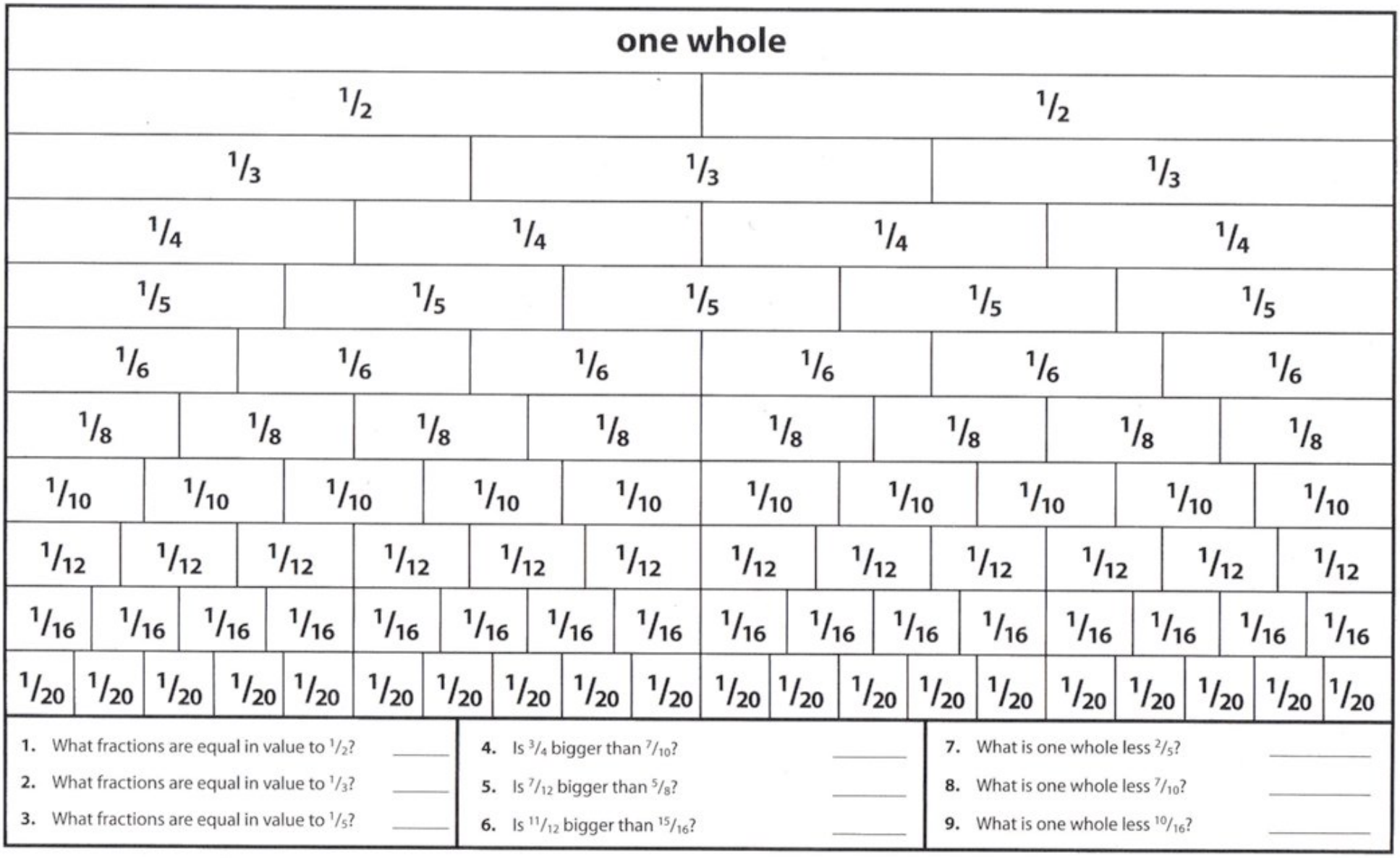
Finding Equivalent Fractions 2



1. What fractions are equal in value to $^1/_2$? _____
2. What fractions are equal in value to $^1/_3$? _____
3. What fractions are equal in value to $^1/_5$? _____
4. Is $^3/_4$ bigger than $^7/_{10}$? _____
5. Is $^7/_{12}$ bigger than $^5/_8$? _____
6. Is $^{11}/_{12}$ bigger than $^{15}/_{16}$? _____
7. What is one whole less $^2/_5$? _____
8. What is one whole less $^7/_{10}$? _____
9. What is one whole less $^{10}/_{16}$? _____

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