PONY

سلسلة كتب الأستاذ

MATH BASICS

6 - 7 Years

Numbers Up to 99

3 LEVEL

3

PONY

MATH BASICS 6 - 7 Years

المستوى الثالث

180 LE

PONY

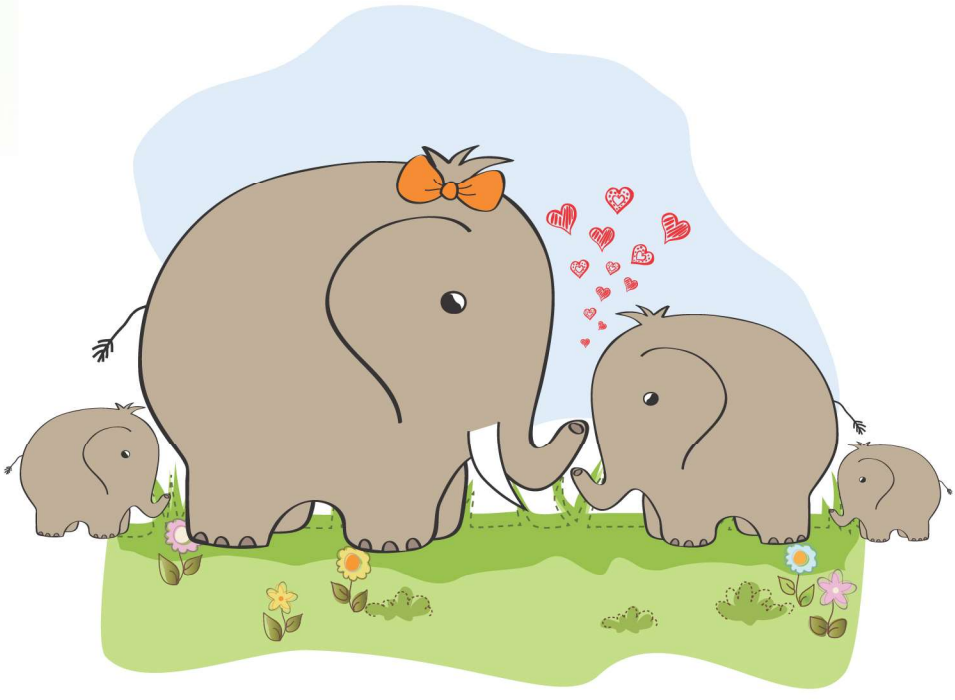
MATH BASICS

Numbers up to 99

This Book Belongs to

.....

Contents



MY TOOLS

Tens and Ones Cards

We use Tens and Ones cards to represent numbers up to 100.

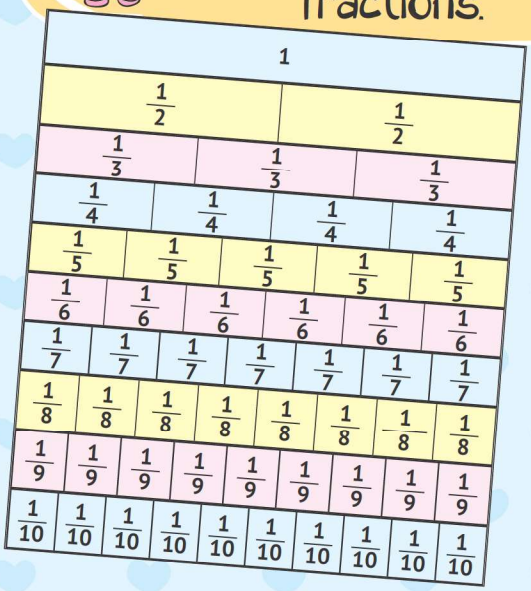
Tens	Ones
6	8
Sixty	Eight

Fingers

We use our fingers to represent numbers.

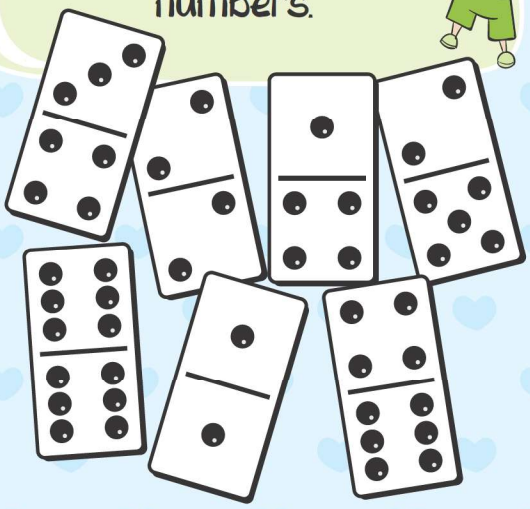
Fractions Wall

We use the fractions wall to represent fractions.



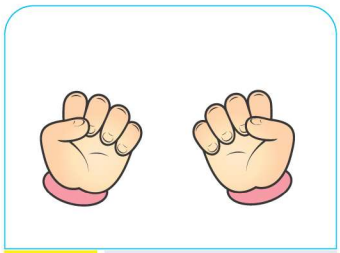
Dot Cards

We use the dot cards to represent numbers.

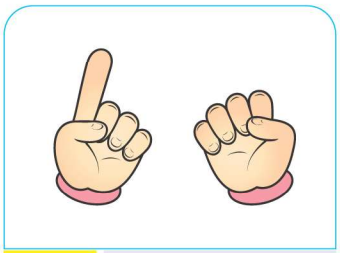


Counting and Writing Numbers (0-20)

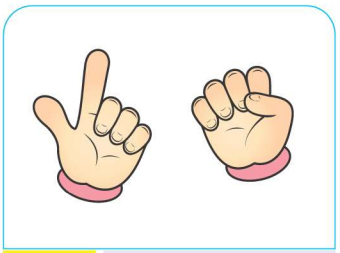
Look and say:



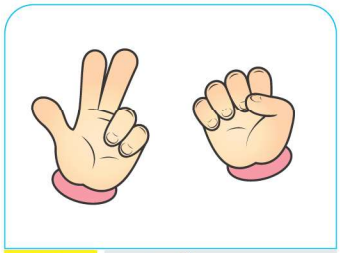
0 Zero



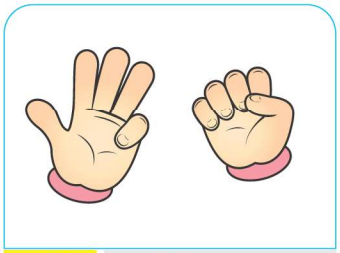
1 One



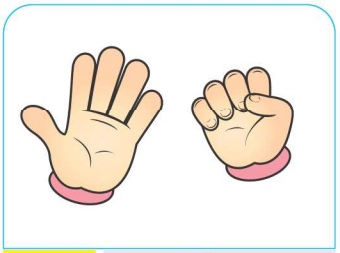
2 Two



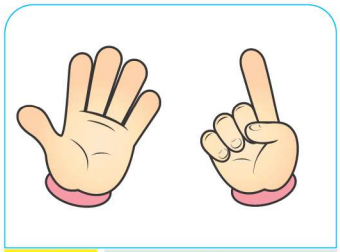
3 Three



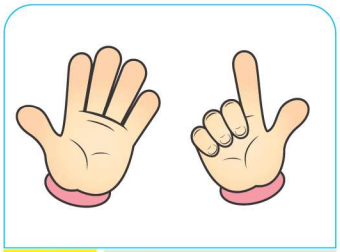
4 Four



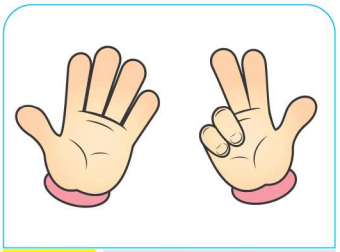
5 Five



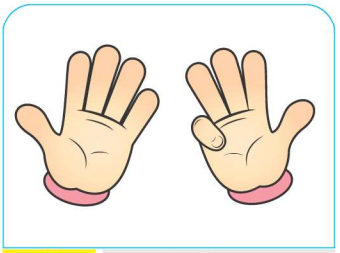
6 Six



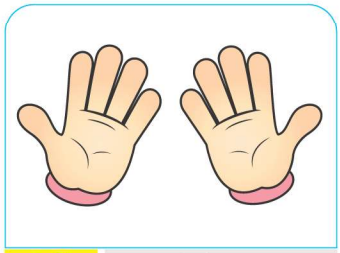
7 Seven



8 Eight

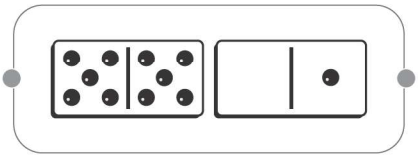
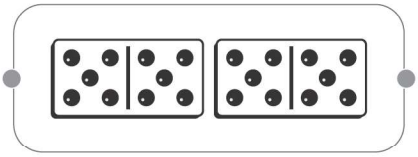
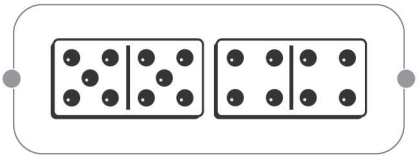
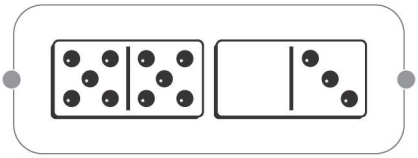
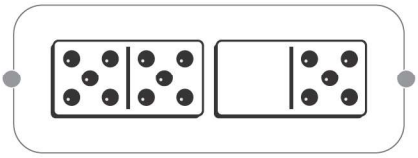
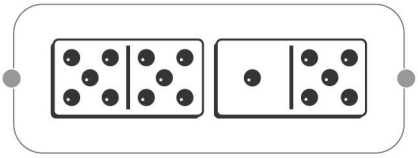
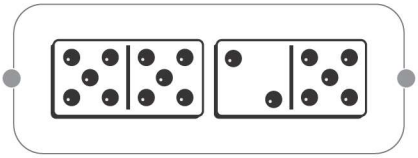
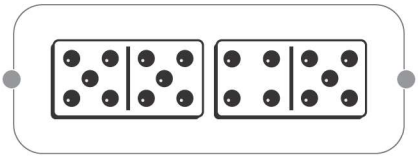
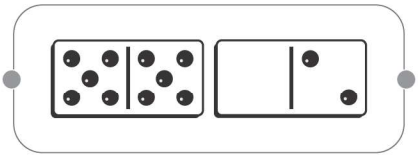


9 Nine



10 Ten

2 Match:

18		Thirteen
11		Eleven
20		Twenty
16		Eighteen
13		Sixteen
17		Fifteen
15		Twelve
12		Seventeen
19		Nineteen

Numbers up to 100

A juice straw

1 Ones

2 juice straws

2 Ones

3 juice straws

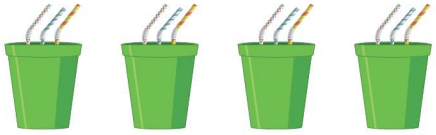
3 Ones

4 juice straws

4 Ones

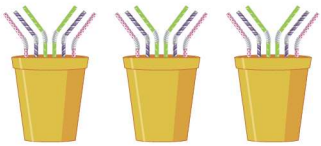
5 juice straws

5 Ones



3 + 3 + 3 + 3 = 12

12 Ones = 12



6 + 6 + 6 = 18

18 Ones = 18

1 Complete the following:

a 5 Ones = ...

b 13 Ones = ...

c 9 Ones = ...

d 15 Ones = ...

e ..... Ones = 8

f ..... Ones = 3

g ..... Ones = 19

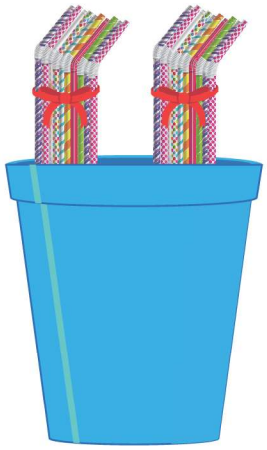
h ..... Ones = 10

10 juice straws

1 Ten

10 Ones = 1 Ten

20 juice straws



2 Tens

20 Ones = 2 Tens

30 juice straws

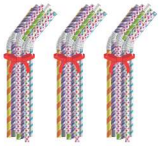
3 Tens

30 Ones = 3 Tens

2 Tens

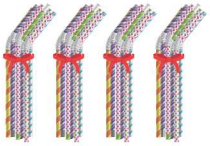
20 (Twenty)

3 Tens



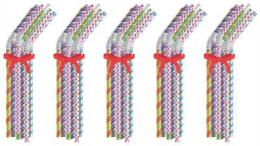
30 (Thirty)

4 Tens



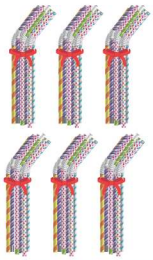
40 (Forty)

5 Tens



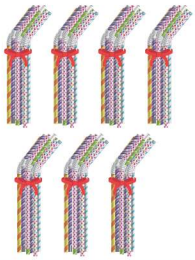
50 (Fifty)

6 Tens



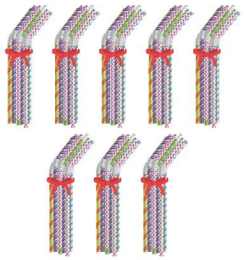
60 (Sixty)

7 Tens



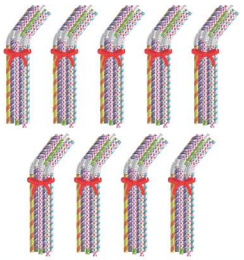
70 (Seventy)

8 Tens



80 (Eighty)

9 Tens



90 (Ninety)

2 Complete the following:

a 7 Tens = ...

b 5 Tens = ...

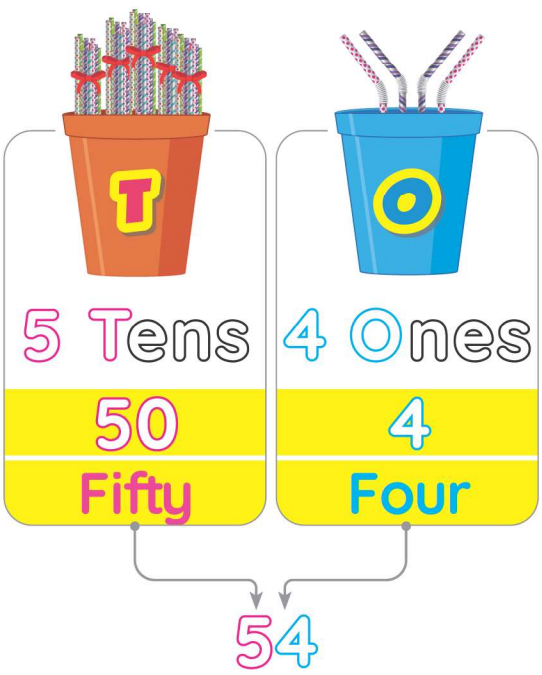
c 2 Tens = ...

d ..... Tens = 30

e ..... Tens = 80

f ..... Tens = 90

Ex.



4 Tens + 5 Ones = 45

Forty-five

5 Tens + 4 Ones = 54

Fifty-four

5 Ones + 4 Tens = 45

Forty-five

4 Ones + 5 Tens = 54

Fifty-four

g ..... Tens + ... Ones = 36 (in words) .....

h ..... Tens + ... Ones = 24 (in words) .....

i ..... Ones + ... Ten = 12 (in words) .....

j ..... Ones + ... Tens = 8 (in words) .....

k ..... Ones + ... Tens = 20 (in words) .....

l ..... Ones + ... Tens = 49 (in words) .....

m ..... Ones + ... Tens = 58 (in words) .....

n ..... Ones + ... Tens = 67 (in words) .....

5 Complete the following:

a ..... Tens + ... Ones = ... (in words) Ninety-nine

b ..... Tens + ... Ones = 95 (in words) .....

c 8 Tens + 0 Ones = ... (in words) .....

d ..... Tens + ... Ones = ... (in words) Seventy-two

e ..... One + ... Tens = 31 (in words) .....

f 3 Tens + 7 Ones = ... (in words) .....

g ..... Ones + ... Tens = ... (in words) Eighty-three

h ..... Ones + ... Tens = 84 (in words) .....

i 0 Ones + 2 Tens = ... (in words) .....

j ..... Ones + ... Ten = ... (in words) Sixteen

k ..... Ten + ... Ones = 13 (in words) .....

l 5 Ones + 9 Tens = ... (in words) .....

LEVEL 3

One more أكبر بواحد & One less أقل بواحد

Before

100 CHART

After

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

Home Activities

1 Complete the following:

a

36 comes just after ..... .
36 is one more than ..... .

36 comes just before ..... .
36 is one less than ..... .

..... comes just before 36.
..... is one less than 36.

..... comes just after 36.
..... is one more than 36.

b

93 comes just after ..... .
93 is one more than ..... .

93 comes just before ..... .
93 is one less than ..... .

..... comes just before 93.
..... is one less than 93.

..... comes just after 93.
..... is one more than 93.

c

..... comes just after 59.
..... is one more than 59.

..... comes just before ..... .
..... is one less than ..... .

59 comes just before ..... .
59 is one less than ..... .

..... comes just after ..... .
..... is one more than ..... .

The place value of the digit 7 is Tens.

القيمة المكانية للرقم ٧ هي عشرات

The place value of the digit 5 is Ones.

القيمة المكانية للرقم ٥ هي آحاد

The value of the digit 7 is 70.

قيمة الرقم ٧ هي ٧٠

The value of the digit 5 is 5.

قيمة الرقم ٥ هي ٥

The place value of the digit 2 is Tens.

القيمة المكانية للرقم ٢ هي عشرات

The place value of the digit 8 is Ones.

القيمة المكانية للرقم ٨ هي آحاد

The value of the digit 2 is 20.

قيمة الرقم ٢ هي ٢٠

The value of the digit 8 is 8.

قيمة الرقم ٨ هي ٨

Home Activities

1 Write the place value of the digit 7 in each of the following:

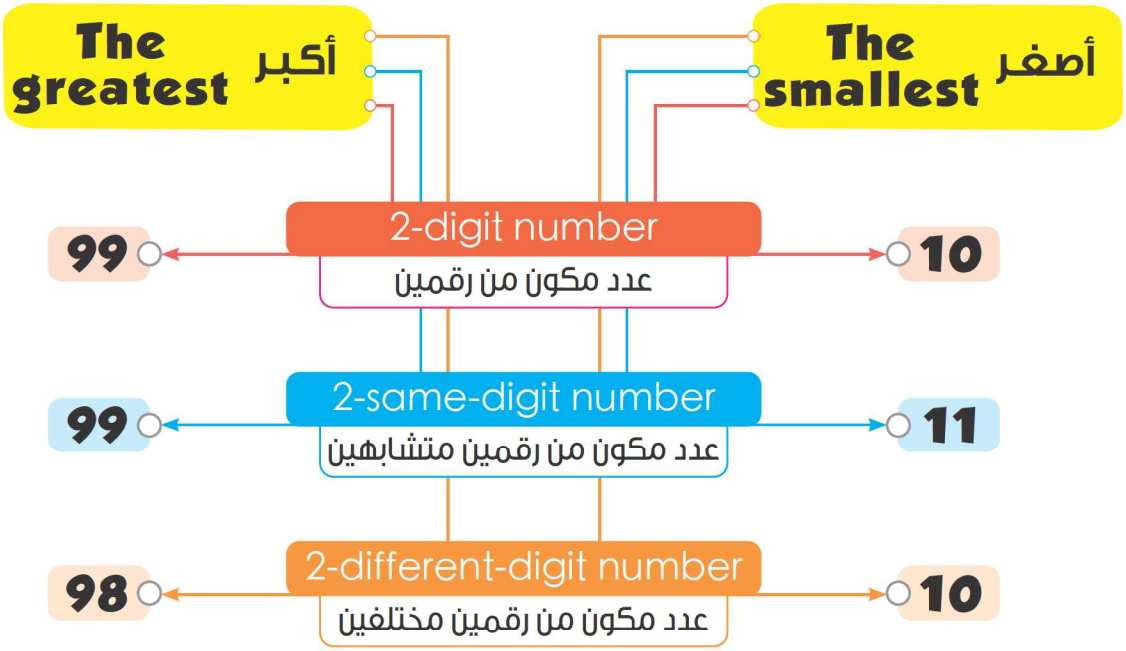
a 73: .....
b 37: .....
c 27: .....
d 72: .....
e 75: .....
f 7: .....
g 57: .....
h 70: .....
i 71: .....
j 97: .....
k 17: .....
l 78: .....

2 Write the value of the digit 8 in each of the following:

a 58: .....
b 80: .....
c 82: .....
d 85: .....
e 87: .....
f 78: .....
g 89: .....
h 98: .....
i 48: .....
j 83: .....
k 68: .....
l 8: .....

3 Write the value and the place value of the encircled digit:

	Number	Value	Place Value
a	(1) 5	.....	.....
b	3 (4)	.....	.....
c	6 (8)	.....	.....



4 Complete the following:

a The greatest number that can be formed from the digits 8 and 7 is ..... .

b The smallest number that can be formed from the digits 9 and 5 is ..... .

c The greatest number that can be formed from the digits 0 and 9 is ..... .

d The greatest 2-digit number is ..... .

e The smallest 2-digit number is ..... .

f The greatest number that can be formed from two different digits is ..... .

Ascending Order الترتيب التصاعدي

From the smallest number to the greatest number.

من العدد الأصغر إلى العدد الأكبر

Descending Order الترتيب التنازلي

From the greatest number to the smallest number.

من العدد الأكبر إلى العدد الأصغر

Ex. **Arrange the following numbers in an ascending order:**

a 73 , 58 , 27 , 95 , 36 , 45

Step 1 Circle the Tens digit in each number:

(7)3 , (5)8 , (2)7 , (9)5 , (3)6 , (4)5

Step 2 Arrange the numbers according to their Tens digits:

The order: 27 , 36 , 45 , 58 , 73 , 95

b 63 , 36 , 7 , 37 , 28 , 52

(6)3 , (3)6 , ( )7 , (3)7 , (2)8 , (5)2

If the digits in the Tens are equal, we look at the Ones:

The order: 7 , 28 , 36 , 37 , 52 , 63

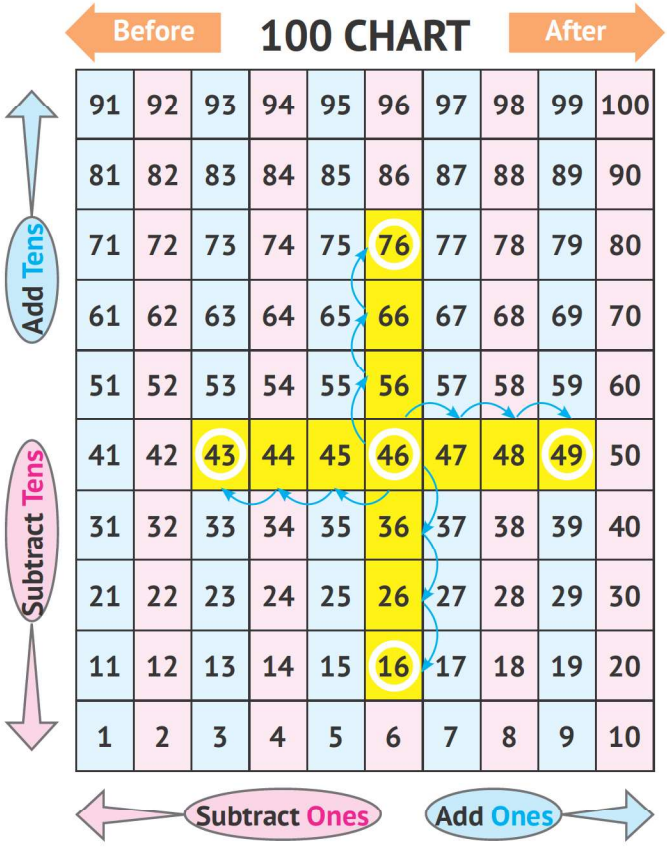
Ex. Find the result using the 100 Chart:

$46 + 3 = 49$

$46 - 3 = 43$

$46 + 30 = 76$

$46 - 30 = 16$



91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

5 Find the result using the 100 Chart:

a $25 + 2 =$ .....

b $54 + 4 =$ .....

c $25 - 2 =$ .....

d $54 - 4 =$ .....

e $25 + 20 =$ .....

f $54 + 40 =$ .....

g $25 - 20 =$ .....

h $54 - 40 =$ .....

i
$$\begin{array}{r} 72 \\ -\ 2 \\ \hline \end{array}$$
.....

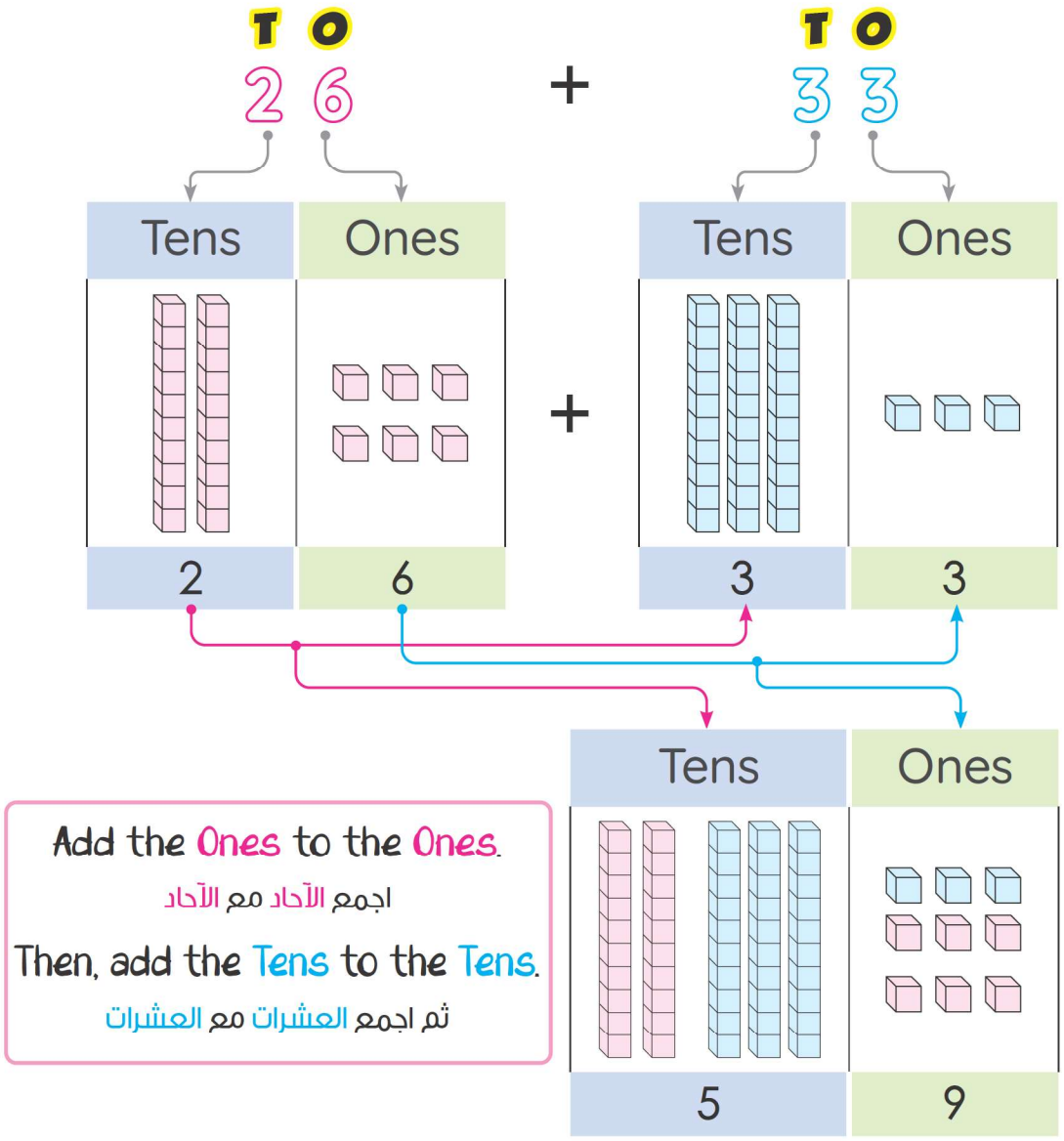
j
$$\begin{array}{r} 72 \\ +\ 2 \\ \hline \end{array}$$
.....

k
$$\begin{array}{r} 72 \\ +\ 20 \\ \hline \end{array}$$
.....

l
$$\begin{array}{r} 72 \\ -\ 20 \\ \hline \end{array}$$
.....

1 Draw the Tens as sticks and the Ones as small boxes to represent each addend:

Ex. 26 + 33



Add the Ones to the Ones.

اجمع الآحاد مع الآحاد

Then, add the Tens to the Tens.

ثم اجمع العشرات مع العشرات

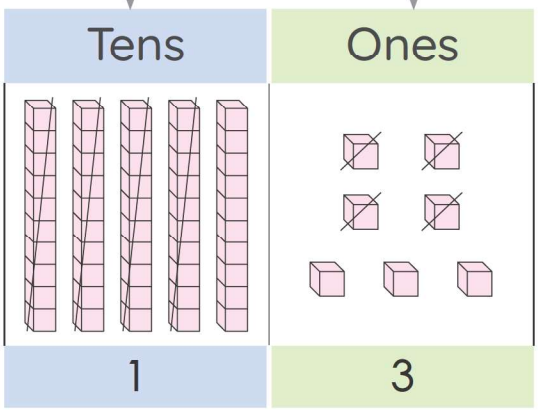
26 + 33 = 59

1 Draw the Tens as sticks and the Ones as small squares to represent each of the following:

Ex.

57 – 44

2 Subtract the Tens from the Tens.
اطرح العشرات من العشرات

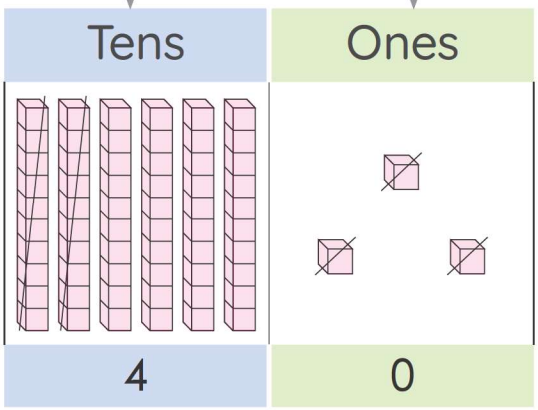


1 Subtract the Ones from the Ones.
اطرح الآحاد من الآحاد

So, 57 – 44 = 13

63 – 23

2 Subtract the Tens from the Tens.
اطرح العشرات من العشرات



1 Subtract the Ones from the Ones.
اطرح الآحاد من الآحاد

So, 63 – 23 = 40

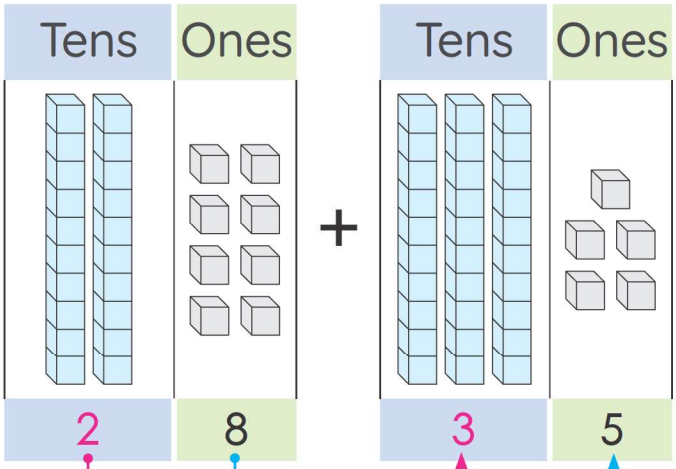
- Regrouping means changing the way you group your Tens and Ones.
- إعادة التجميع يعني تغيير الطريقة التي تجمع بها العشرات والآحاد.

Ex. Add: 28 + 35 = ...

First Way

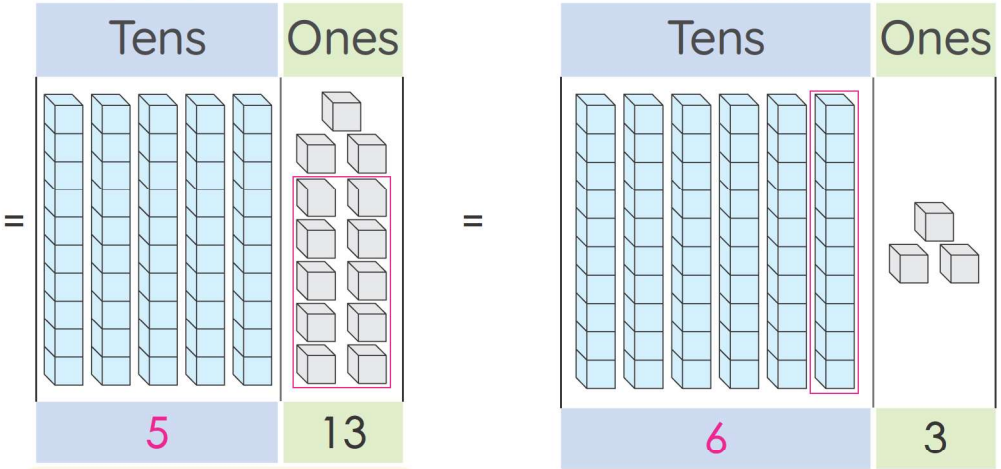
2 8 + 3 5

(2 Tens + 8 Ones) + (3 Tens + 5 Ones)



1. Add the Ones digit to the Ones digit.
   اجمع رقم الآحاد مع رقم الآحاد.
2. Add the Tens digit to the Tens digit.
   اجمع رقم العشرات مع رقم العشرات.
3. Regroup the 10 Ones to make 1 Ten.
   أعد تجميع ١٠ آحاد لتكوين ١ عشرة.

= 5 Tens + 13 Ones = 6 Tens + 3 Ones



Regroup 10 Ones as 1 Ten

Second Way

1 Add the Ones digit to the Ones digit.
اجمع رقم الآحاد مع رقم الآحاد.

	2	8
+	3	5
		1 3

2 8 + 3 5 = 1 3

8 plus 5 equals 13.

2 Regroup 10 Ones to make 1 Ten.
أعد تجميع ١٠ آحاد لتكوين ١ عشرة.

	①	
	2	8
+	3	5
	①	3

① 2 8 + 3 5 = ~~①~~ 3

Write 3 and carry one over 2.

3 Add the Tens digit to the Tens digit
اجمع رقم العشرات مع رقم العشرات.

	①	
	2	8
+	3	5
	6	3

① 2 8 + 3 5 = 6 3

2 becomes 3, and 3 plus 3 equals 6.

3 Find the sum of each of the following:

a
$$\begin{array}{r} 3\ 6 \\ +\ 4\ 9 \\ \hline \end{array}$$
.....

b
$$\begin{array}{r} 4\ 5 \\ +\ 3\ 9 \\ \hline \end{array}$$
.....

c
$$\begin{array}{r} 2\ 8 \\ +\ 1\ 7 \\ \hline \end{array}$$
.....

d
$$\begin{array}{r} 7\ 3 \\ +\ \ 7 \\ \hline \end{array}$$
.....

e
$$\begin{array}{r} 6\ 4 \\ +\ \ 7 \\ \hline \end{array}$$
.....

f
$$\begin{array}{r} 2\ 8 \\ +\ 5\ 6 \\ \hline \end{array}$$
.....

g
$$\begin{array}{r} 2\ 7 \\ 5\ 2 \\ +\ 1\ 8 \\ \hline \end{array}$$
.....

h
$$\begin{array}{r} 4\ 9 \\ 6 \\ +\ 3\ 8 \\ \hline \end{array}$$
.....

i 45 + 19 = ...

j 63 + 28 = ...

k 77 + 5 = ...

l 39 + 27 = ...

m 46 + 18 + 28 = ...

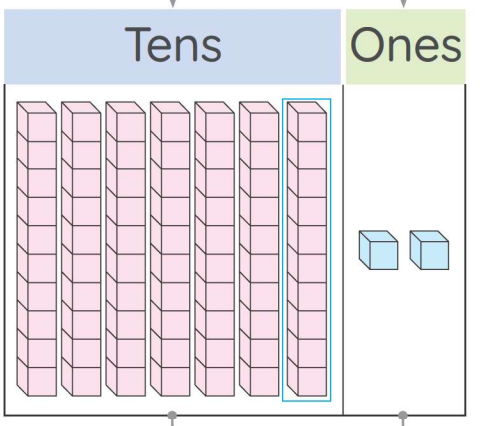
n 39 + 6 + 29 = ...

First Way

1 Draw the Tens as sticks and the Ones as small boxes to represent each of the following:

Ex. 7 2 – 3 8

7 Tens | 2 Ones



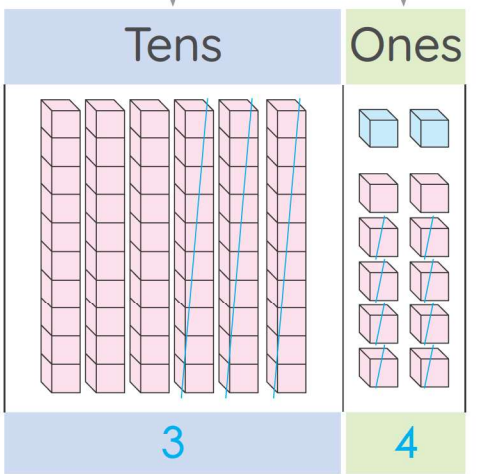
You cannot subtract 8 Ones from 2 Ones.

لا يمكن طرح ٨ آحاد من ٢ آحاد.

Take the one Ten and decompose it into 10 Ones.

خذ ١ عشرات وحلله إلى ١٠ آحاد.

6 Tens | 12 Ones



The Ones digit becomes 12 and the Tens digit becomes 6.

الآحاد تصبح ١٢ والعشرات تصبح ٦.

Subtract the Ones from the Ones and the Tens from the Tens.

اطرح الآحاد من الآحاد والعشرات من العشرات.

3 | 4

So, 72 – 38 = 34

- The following steps can be followed in the solution:
- يمكن اتباع الخطوات التالية في الحل:

1 Understand الفهم
What do we want to find? ما الذي نريد إيجاده؟ → Circle the questions. نضع دائرة حول السؤال.

2 Plan التخطيط
What facts do you need? ما الحقائق التي تحتاجها؟ → Underline them. نضع خطًا تحت الحقائق.

3 Solve الحل
Using one of the methods we learned. باستخدام إحدى الطرق التي تعلمناها.

3 Check المراجعة
Does your answer make sense? هل الإجابة منطقية؟

KEYWORDS

Addition +
Plus, Add, Sum, Total, Altogether, Increase, More, Combine

Subtraction −
Subtract, Minus, Difference, Left, Left over, Decrease, Take away, Fewer

PONY

سلسلة كتب الأستاذ

MATH BASICS

Fractions

LEVEL 3

PONY

MATH BASICS

LEVEL 3

Fractions

This Book Belongs to

.....

Fractions

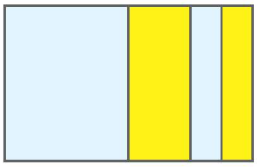
الكسور

PONY

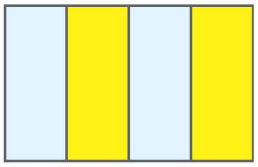
Fractions

- The fraction is a numerical quantity that represents a part of a whole number, where a number is divided into several equal parts.

الكسر الاعتيادي هو كمية عددية تعبر عن جزء من عدد صحيح، حيث يتم تقسيم العدد إلى عدد من الأجزاء المتساوية.

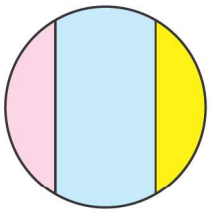


4 unequal parts
They **are not** fourths.



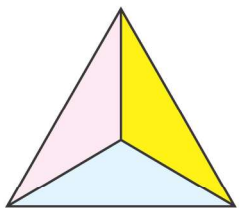
4 equal parts
They **are** fourths.

1 Write the number of parts in each of the following shapes, then choose **equal** or **unequal**:

a 

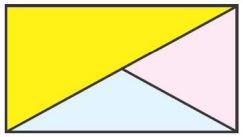
..... parts

Equal Unequal

b 

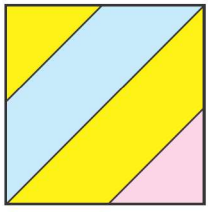
..... parts

Equal Unequal

c 

..... parts

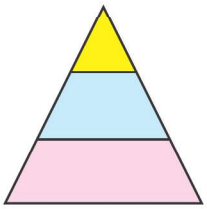
Equal Unequal

d 

..... parts

Equal Unequal

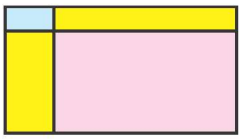
e



..... parts

Equal Unequal

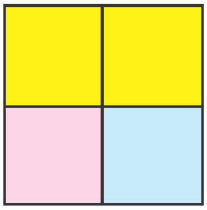
f



..... parts

Equal Unequal

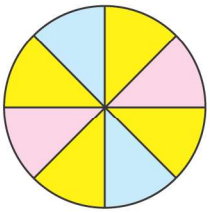
g



..... parts

Equal Unequal

h



..... parts

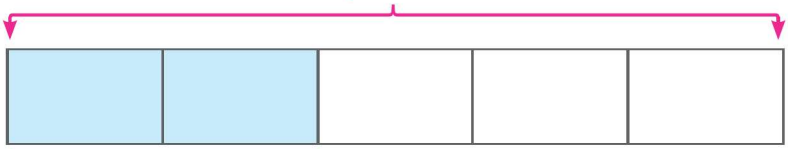
Equal Unequal

Fractions as Parts of a whole:

Ex.

One Whole

5 Equal Parts



2 Shaded Parts

$$\frac{2}{5}$$

Numerator

It is the number of parts you have. Shaded Parts

البسط: عدد الأجزاء المظللة.

Denominator

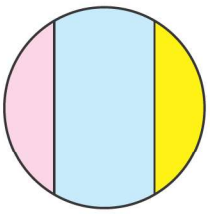
It is the number of parts in a whole. All Parts

المقام: عدد جميع الأجزاء.

Activities on Fractions

1 Write the number of parts in each of the following shapes, then choose **equal** or **unequal**:

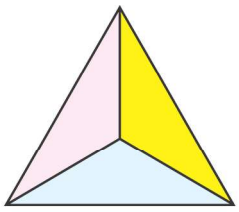
a



..... parts

Equal Unequal

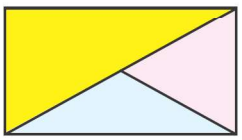
b



..... parts

Equal Unequal

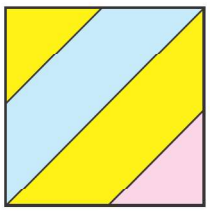
c



..... parts

Equal Unequal

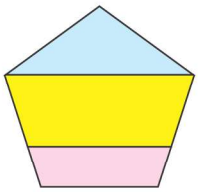
d



..... parts

Equal Unequal

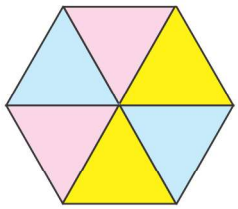
e



..... parts

Equal Unequal

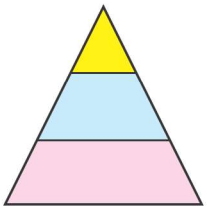
f



..... parts

Equal Unequal

g



..... parts

Equal Unequal

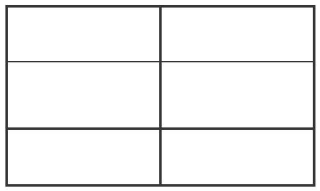
h

..... parts

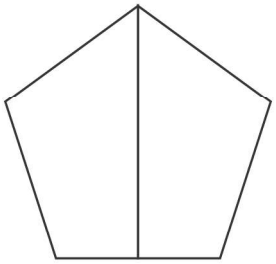
Equal Unequal

3 Color according to the fraction:

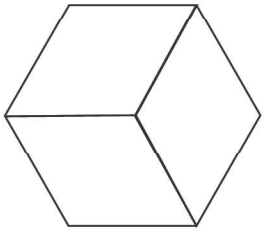
a $\frac{5}{6}$



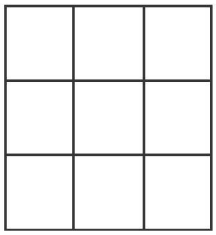
b $\frac{1}{2}$



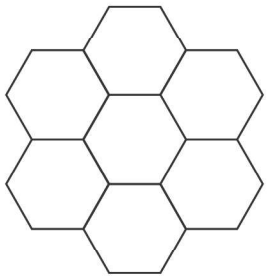
c $\frac{2}{3}$



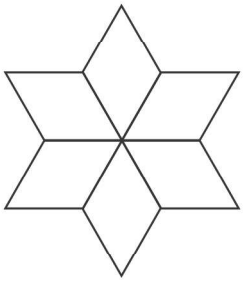
d $\frac{5}{9}$



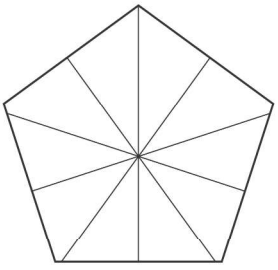
e $\frac{4}{7}$



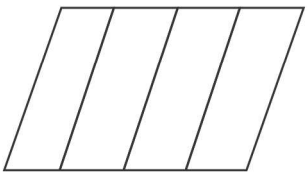
f $\frac{3}{6}$



g $\frac{2}{10}$



h $\frac{2}{4}$



LEVEL 3

Unit Fraction

- It is a fraction that has the digit 1 as the numerator.

كسر الوحدة: هو كسر بسطه 1.

Number of Equal Parts	One Part (Unit Fraction)	Fraction in Pictures and Numbers
1 part		One Whole
2 parts	$\frac{1}{2}$, A half	$\frac{1}{2}$ $\frac{1}{2}$
3 parts	$\frac{1}{3}$, A third	$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$
4 parts	$\frac{1}{4}$, A fourth	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$
5 parts	$\frac{1}{5}$, A fifth	$\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{5}$
6 parts	$\frac{1}{6}$, A sixth	$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$
7 parts	$\frac{1}{7}$, A seventh	$\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$ $\frac{1}{7}$

Reading Fractions

Ex.

$\frac{2}{3}$ = Two-thirds

$\frac{3}{4}$ = Three-fourths

$\frac{5}{7}$ = Five-sevenths

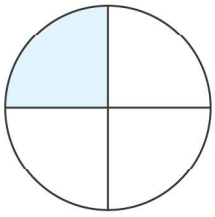
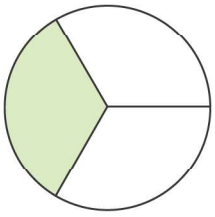
$\frac{8}{9}$ = Eight-ninths

Comparing Unit Fractions Using Models
مقارنة كسور الوحدة باستخدام النماذج

Ex. Compare using (<, =, or >):

$\frac{1}{4}$ 

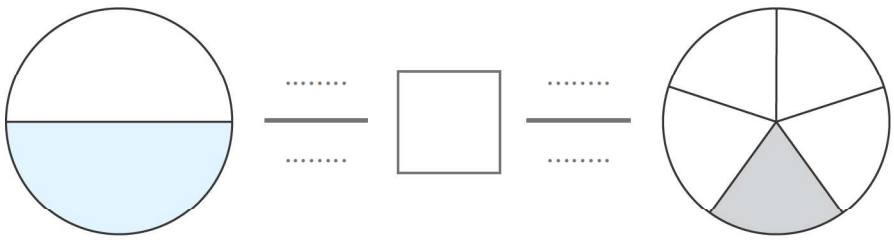
$\frac{1}{3}$ 

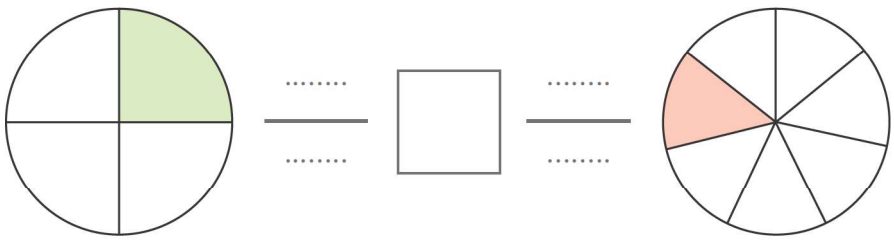
 $\frac{1}{4}$ < $\frac{1}{3}$ 

- The fraction with the lesser denominator is greater.

الكسر ذو المقام الأصغر هو الكسر الأكبر.

1 Write the fractions, then compare using "<, =, or >":

a 

b 

Important Note:

One Whole					
$\frac{1}{2}$	$\frac{1}{2}$				$\Rightarrow \frac{2}{2} = 1$ [Two-halves]
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$			$\Rightarrow \frac{3}{3} = 1$ [Three-thirds]
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$		$\Rightarrow \frac{4}{4} = 1$ [Four-fourths]
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\Rightarrow \frac{5}{5} = 1$ [Five-fifths]
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$ $\Rightarrow \frac{6}{6} = 1$ [Six-sixths]

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

5 Answer the following questions:

a How many halves make one whole?

.....-halves

b How many fourths make one whole?

.....-.....

c How many sixths make one whole?

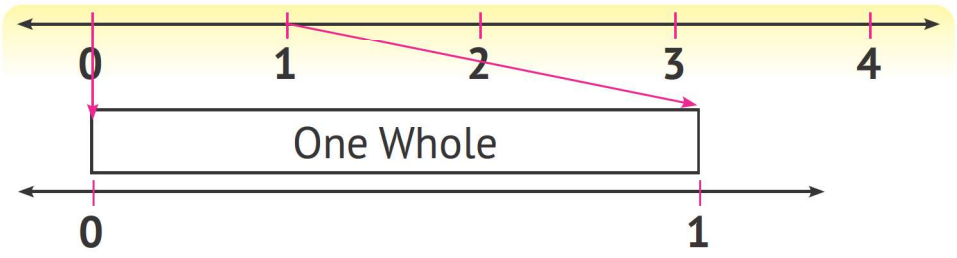
.....-.....

Representing Fractions on a Number Line
تمثيل الكسور على خط الأعداد

Ex. **Represent fourths on the number line:**

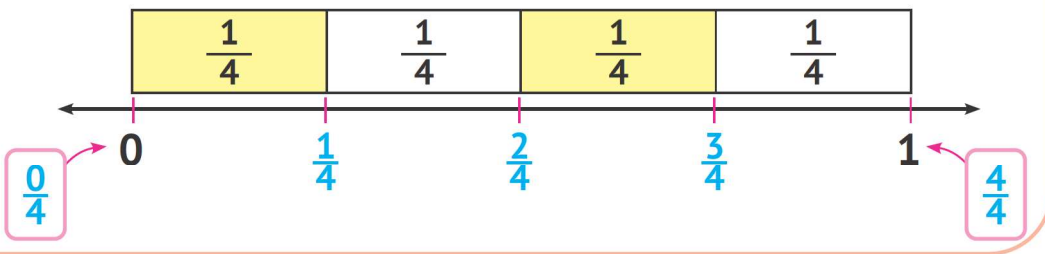
1 Draw a line. Mark 0 on the left and mark 1 on the right; the space from 0 to 1 represents 1 whole.

ارسم خطًا. ثم ضع 0 على اليسار و1 على اليمين، والمسافة من 0 إلى 1 تمثل 1 صحيحًا.



2 Divide the one whole into 4 equal parts according to the denominator; each part is $\frac{1}{4}$.

قسم الواحد الصحيح إلى 4 أجزاء متساوية طبقًا للمقام، كل جزء هو $\frac{1}{4}$.



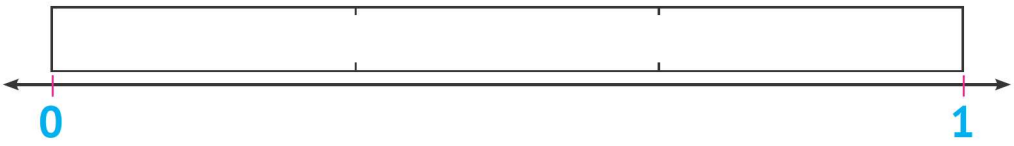
Activities on Representing Fractions on a Number Line

1 Use the number lines to represent the following:

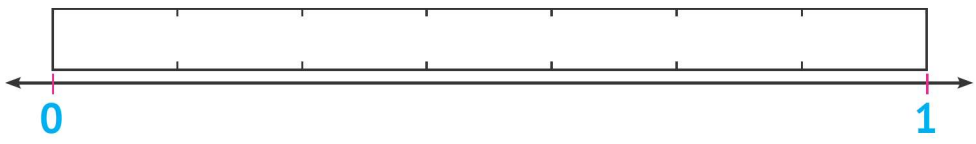
a Halves

b Eighths

c Thirds



d Sevenths

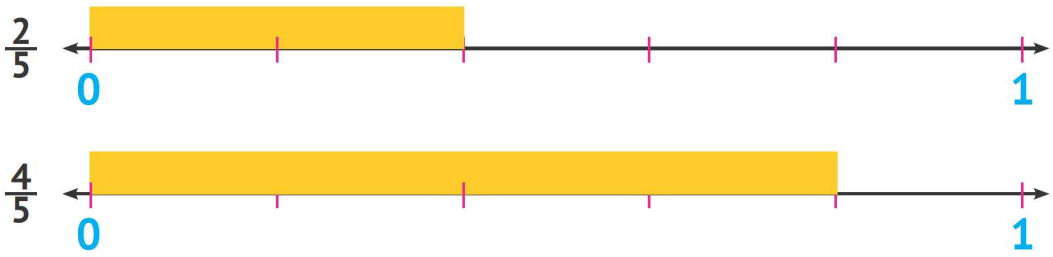


LEVEL 3

Comparing Fractions
مقارنة الكسور

Comparing Fractions Using the Number Line
مقارنة الكسور باستخدام خط الأعداد

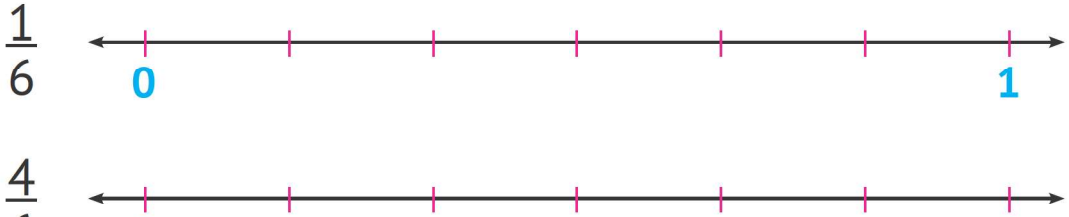
Ex. Compare: $\frac{2}{5}$ ☐ $\frac{4}{5}$



So, $\frac{2}{5} < \frac{4}{5}$

1 Represent the following fractions on the number lines, and then compare using (<, =, or >):

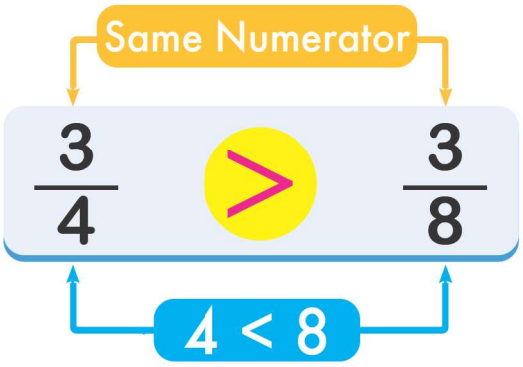
a



$\frac{1}{6}$ ☐ $\frac{4}{6}$

Comparing Two Fractions With the Same Numerator
مقارنة كسرين لهما نفس البسط

Ex. Compare: $\frac{3}{4}$ ☐ $\frac{3}{8}$



- The fraction with the lesser denominator is greater.

الكسر الذي مقامه أصغر هو الكسر الأكبر.

3 Compare using (<, =, or >):

a $\frac{2}{5}$ ☐ $\frac{2}{3}$

b $\frac{1}{4}$ ☐ $\frac{1}{7}$

c $\frac{4}{5}$ ☐ $\frac{4}{5}$

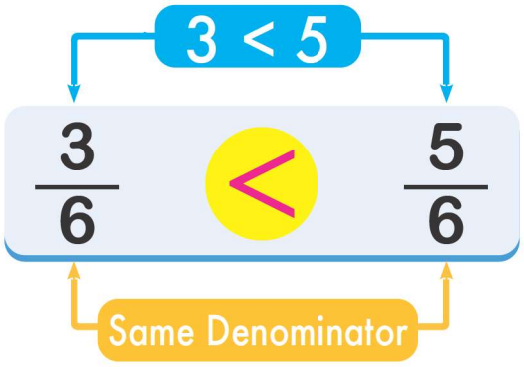
d $\frac{3}{7}$ ☐ $\frac{3}{9}$

e $\frac{7}{8}$ ☐ $\frac{7}{7}$

f $\frac{5}{9}$ ☐ $\frac{5}{6}$

Comparing Two Fractions With the Same Denominator
مقارنة كسرين لهما نفس المقام

Ex. Compare: $\frac{3}{6}$ ☐ $\frac{5}{6}$



- The fraction with the lesser numerator is smaller.

الكسر الذي بسطه أصغر هو الكسر الأصغر.

4 Compare using (<, =, or >):

a) $\frac{3}{7}$ ☐ $\frac{2}{7}$

b) $\frac{4}{5}$ ☐ $\frac{3}{5}$

c) $\frac{6}{9}$ ☐ $\frac{4}{9}$

d) $\frac{1}{3}$ ☐ $\frac{2}{3}$

e) $\frac{7}{8}$ ☐ $\frac{7}{8}$

f) $\frac{6}{6}$ ☐ $\frac{5}{6}$

LEVEL 3

Ordering Fractions
ترتيب الكسور

Ordering Fractions with the Same Denominator
ترتيب الكسور التي لها نفس المقام

- By comparing the numerators only, without considering the denominators.

عن طريق مقارنة البسط فقط دون النظر إلى المقام.

Arrange the following fractions in ascending and descending order:

Ex. $\frac{1}{7}$, $\frac{6}{7}$, $\frac{3}{7}$, $\frac{4}{7}$

Ascending order: $\frac{1}{7}$, $\frac{3}{7}$, $\frac{4}{7}$, $\frac{6}{7}$

Descending order: $\frac{6}{7}$, $\frac{4}{7}$, $\frac{3}{7}$, $\frac{1}{7}$

a $\frac{2}{5}$, $\frac{3}{5}$, 0 , $\frac{4}{5}$

Ascending order: ..... , ... , ... , ...

Descending order: ..... , ... , ... , ...

b $\frac{7}{9}$, $\frac{1}{9}$, 1 , $\frac{6}{9}$

Ascending order: ..... , ... , ... , ...

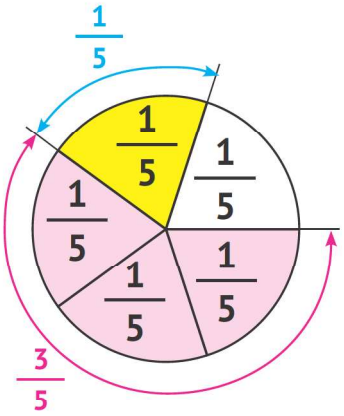
Descending order: ..... , ... , ... , ...

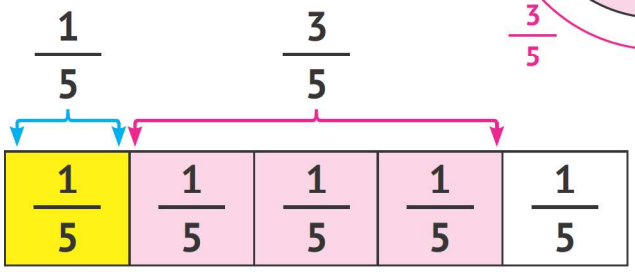
Adding and Subtracting Two Fractions With the Same Denominator

جمع وطرح كسرين لهم نفس المقام

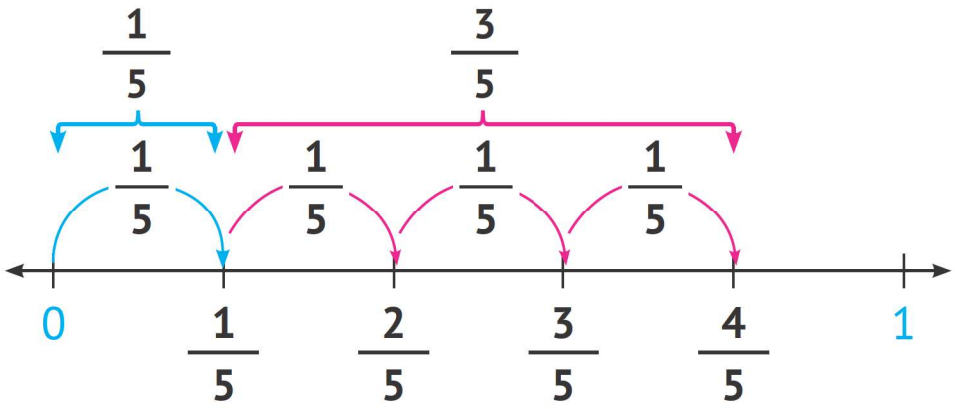
Ex. Add: $\frac{1}{5} + \frac{3}{5}$

Using Models:





Using the Number Line:



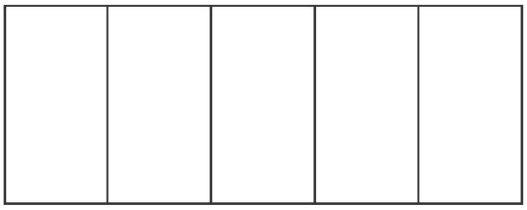
So, $\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$

Activities on Adding and Subtracting Two Fractions With the Same Denominator

1 Solve the addition problems below. Use the **models** or **number lines** to show your steps:

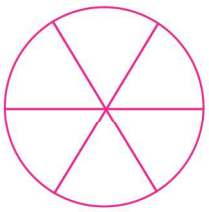
a

$$\frac{1}{5} + \frac{3}{5} = \frac{\ldots\ldots}{\ldots\ldots}$$



b

$$\frac{2}{6} + \frac{2}{6} = \frac{\ldots\ldots}{\ldots\ldots}$$



c

$$\frac{2}{8} + \frac{5}{8} = \frac{\ldots\ldots}{\ldots\ldots}$$

d

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