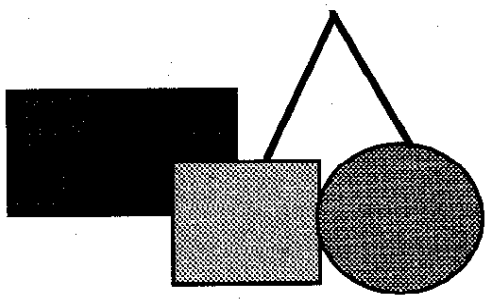
Basic Competencies of
Learning in

Mathematics



Grade Two

In the name of God, the gracious, the merciful

Introduction:

This booklet is one of a series of teacher resource books on Dari, Pashto and mathematics. These were developed in 1999 by a group of experienced Afghan educators to help teachers understand the universal basic competencies that primary education programs need to teach. The materials were developed based on various resource materials. In particular, they draw on existing Afghan primary textbooks.

The mathematics booklets are organized as follows:

- There are six booklets, one for each grade (1-6).
- Each booklet contains a full mathematics concept and skills framework for the full primary level. This framework can help teachers in different ways:
    - It helps teachers to understand how different math concepts are broken down into skills for each class level;
    - It helps teachers to understand how the different math concepts and skills need to be built up sequentially through the primary cycle;
    - It shows at which grade level new concepts and skills should be introduced.

- Each grade booklet then provides examples of all the math skills that need to be covered in the specific grade. The examples can help teachers as follows:
    - It ensures that all teachers understand the skills in the same way;
    - Teachers can use the examples to test whether children have learnt the skills;
    - Teachers can use the examples to develop extra practice material for children.

Not only teachers can use the materials. Teacher trainers can use the materials as well, for example to introduce the basic competencies, to teach subject content, and to help teachers develop low-cost teaching aids linked to the competencies. Supervisors can use the examples to test whether children are learning the basic competencies in mathematics. It is the hope of the developers that all Afghan educators will find the materials useful in their work with children.

Prepared by the representatives of the following organizations:

OI	Ockenden International
IRC	International Rescue Committee
AG-BASED	Afghan German Basic Education
SCA	Swedish Committee for Afghanistan
SAB	Solidarite Afghanistan Belgium
GTZ-BEFARE	GTZ-Basic Education for Afghan Refugees
AIL	Afghan Institute of Learning
CARE	Cooperative Assistance Relief Everywhere
PSD	Partners for Social Development
SCF-USA	Save the Children Federation -USA
CIC	Children in Crisis
NAC	Norwegian Afghanistan Committee
ECAR	Education Committee for Afghan Refugees
AMNA	Creation of the Pilot Schools in Afghanistan
HCI	Human Concern International
	Afghan Teachers and Schools Union in Quetta

Afghan Education

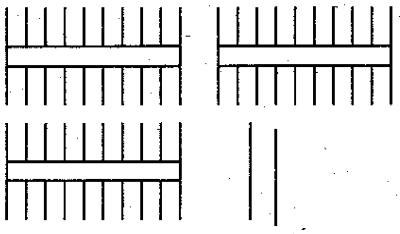
Basic Competencies of Learning in Mathematics May 1999

Math Concepts	I	II	III	IV	V	VI
Place Value	Pre number Concepts Tens; 1 - 99	Hundreds 100-999	Thousands 1000-100000	Millions 7 Digits Add. and Sub.	Billions 8 - 10 digits Add. and Sub.	Trillion 10 - 13 digits Add and Sub.
Addition and Subtraction	Addition & Subtraction of 1 - 99 and zero without carrying and borrowing	Addition & Subtraction till 999 and zero with carrying/borrowing up to tens	Whole numbers w/wo borrow & carry Repeated addition	Review of multiplication Table		
Multiplication and Division			Multiplication and division by 1 to 9 and zero	Multiplication & division by 10s, 100s, 1000s w/o decimals Multiply/Devoid by 2, 3 and four digits	Review multiplication and division	Review multiplication and division by 10s, 100s, 1000s with decimals
Fractions	Color 1/2 and 1/4 of figures	Matching fraction 1/2, 1/3, 2/3, 1/4, 2/4, 3/4 with figures	Identification of fraction (1/2, 1/3, 2/3, 1/4, 2/4, 3/4, 1/5, 2/5, 3/5, 4/5) with figures	Proper fractions Same denominator Compare Add Subtraction	Four operations on Fractions	Conversion of fractions to decimals and vice versa Compare
Decimals					Multiply/divide by 10s, 100s, 1000s with decimals Compare, add and subtract	Four operations on Decimals Application Ratio Percent
Measurement	Comparison of short and long, big and small and thick and thin	span, foot, steps compare capacity of containers Time; months, days and hours	m, cm, kg Hours and minutes	Multiples and parts km, hm, dm, m m, dm, cm, mm Conversion without decimals	Multiples and parts km, hm, dm, m m, dm, cm, mm Conversion with decimals	Review m, dm, cm, mm with perimeter m^2 ,dm^2 cm^2 mm^2 with areas of circle, triangle, rectangle and square
Money/Calendar	Coins and bills up to 100 Afs.	50 Afs. 100Afs And 500 Afs.	Review of 50, 100, 500 1000, 5000, 10,000 Afs.	Lunar Calendar	AD Calendar	

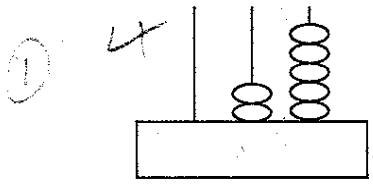
Class Two Math

Place Value up to Hundreds

1. Write the number:



T	O



➢ 2 tens and 3 ones ☐

	Tens	Ones
56 →	☐	☐

2. Complete

1				5			8	9
10	20		40				80	

3.

90		70		50		30		10

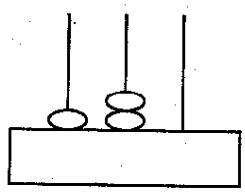
Name the circled mumerals in the following numbers:

④6 5⑥ ②3 ①2 9⑦

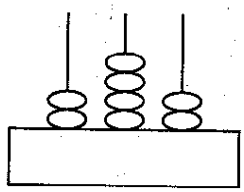
4. Compare and write. Write <, >, =

56 65	92 29	23 23

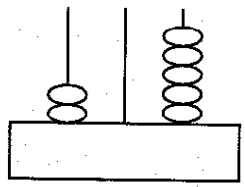
5. Write the numbers:



H	T	O



H	T	O



H	T	O

6 hundreds 8 tens 4 ones _____

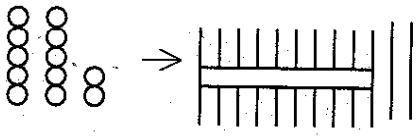
6. Write the missing number: ☐, 255, 256, ☐, 258

7. Write the number that comes between: 277, ☐, 279

Addition with Carrying

Add

$$\begin{array}{r} 27 \\ +\,15 \\ \hline 42 \end{array}$$

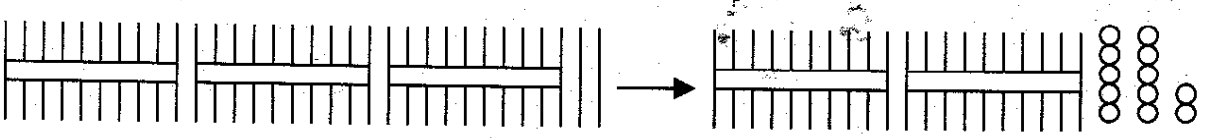
12 Ones →  →

T	O
1 2 1	7 5
4	2

Subtraction with Borrowing

Subtract

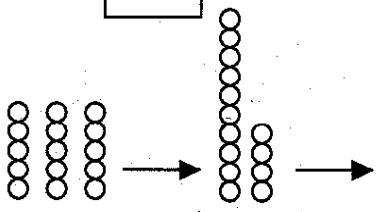
$$\begin{array}{r} 32 \\ -\,14 \\ \hline 18 \end{array}$$



T	0
2	12
~~3~~	~~2~~
1	4
1	8

8. Add

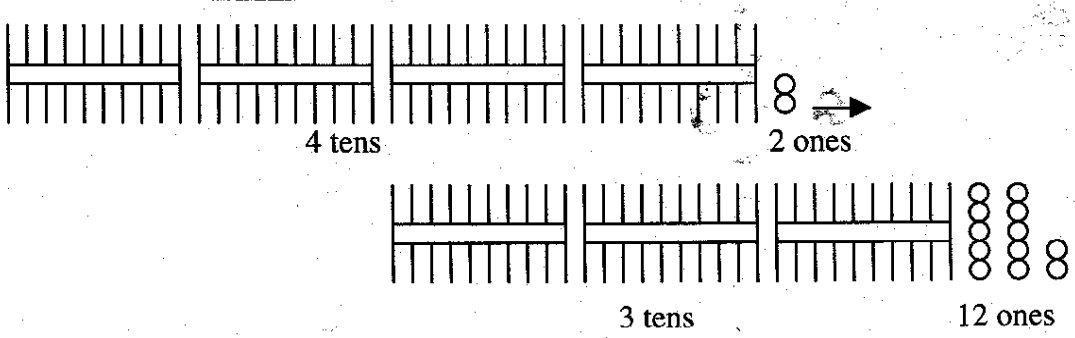
$$\begin{array}{r} 468 \\ +127 \\ \hline \square \end{array}$$



H	T	O
	1	
4	6	8
1	2	7
5	9	5

9. Subtract

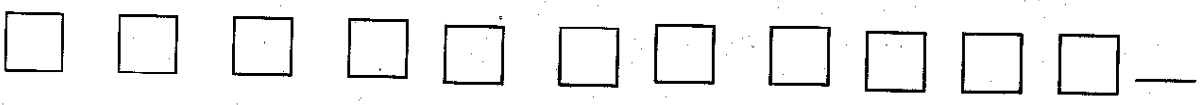
$$\begin{array}{r} 342 \\ +223 \\ \hline \square \end{array}$$



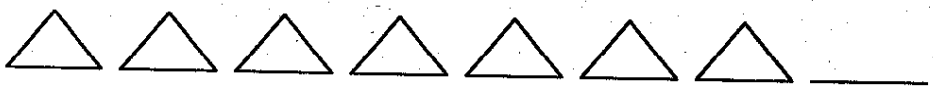
H	T	O
	3	12
3	4	2
2	2	3
1	1	9

10. Solve the problem:

➢ How many squares are there?



➢ How many triangles are there?



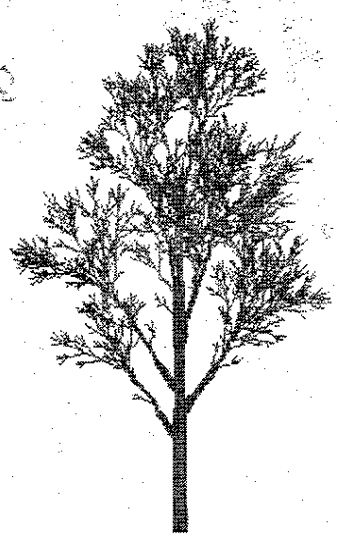
➢ What is the difference between the squares and the triangles?

_____

11. How many apples are still in the tree?

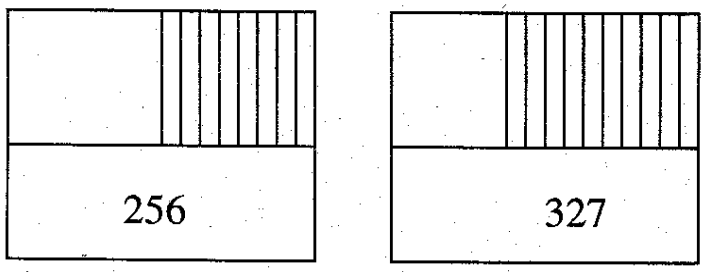
There were 242 apples on the

17 apples fell off the tree.



_____

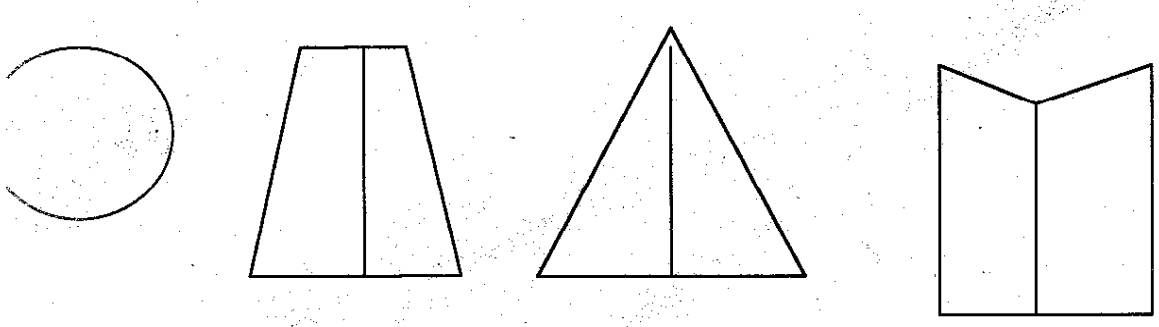
12. How many books are there in both shelves?



_____

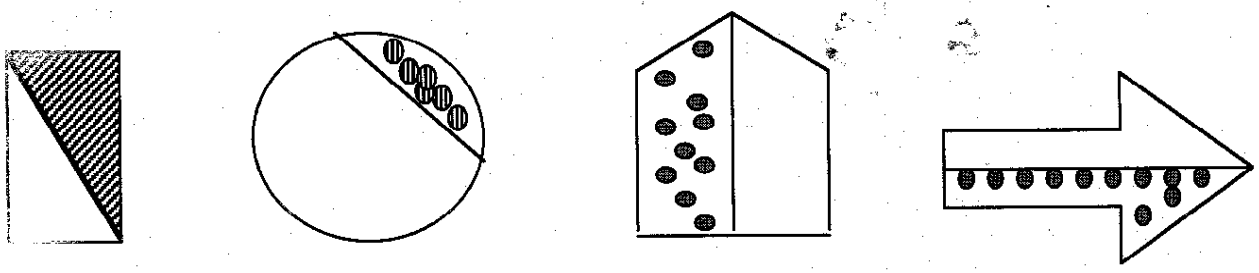
Fractions

13. How many equal parts are there in the figures.

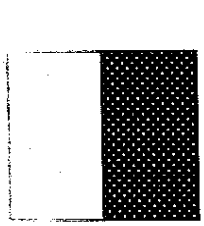


_____ Parts

14. Circle the shape that show 1/2.

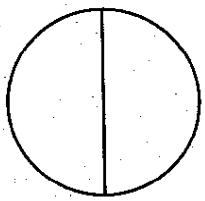


15. Color as shown in the figure below:

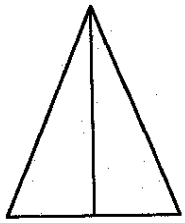


1/2

2/2

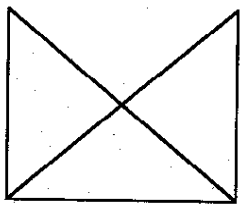


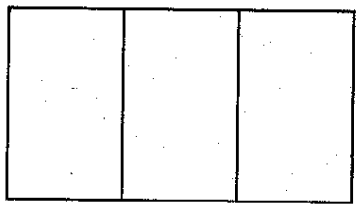
1/2

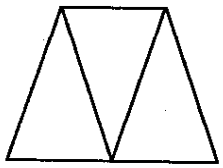


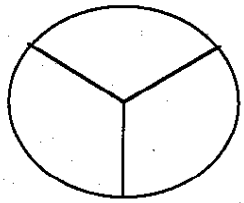
2/2

16. How many equal parts are in the figures below?





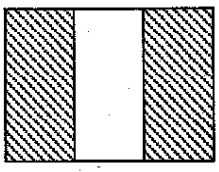




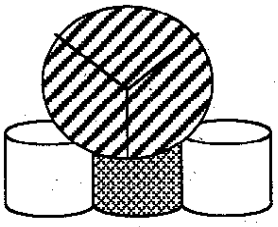
_____ Parts

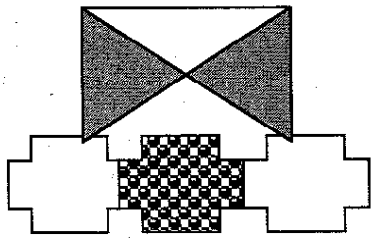
17. Match fractions with figures.

$\frac{1}{3}$

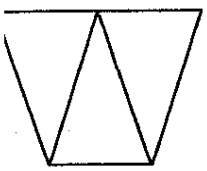


$\frac{2}{3}$

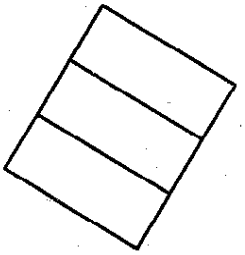




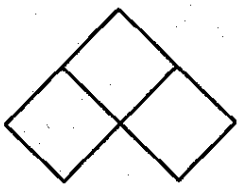
18. Color as indicated:



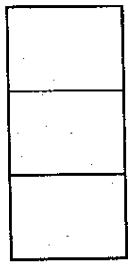
$\frac{1}{3}$



$\frac{2}{3}$

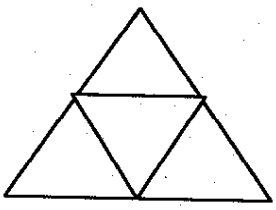
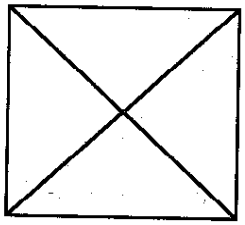
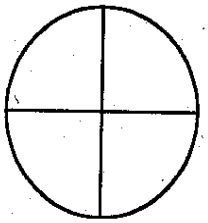
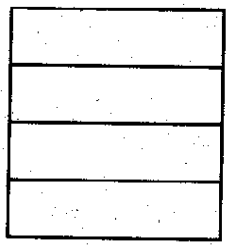


$\frac{3}{3}$



$\frac{1}{3}$

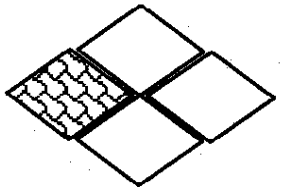
How many equal parts are there in the figures below;

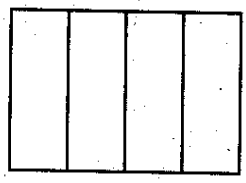
_____ parts

19. Color as indicated.

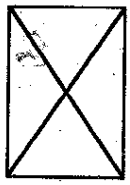
20.



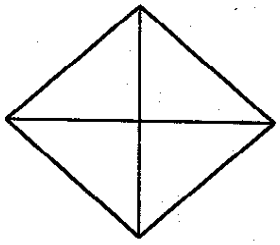
$\frac{1}{4}$



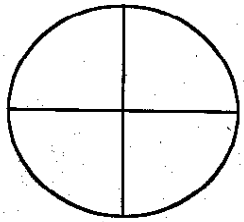
$\frac{3}{4}$



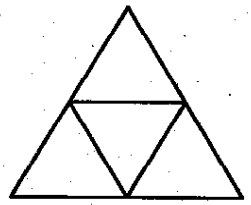
$\frac{2}{4}$



$\frac{4}{4}$

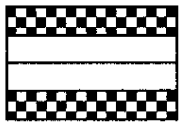


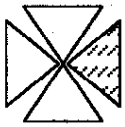
$\frac{1}{4}$

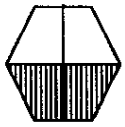


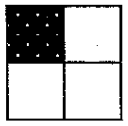
$\frac{4}{4}$

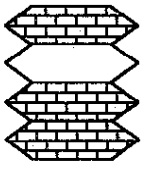
Match fractions with figures.











$\frac{1}{4}$

$\frac{3}{4}$

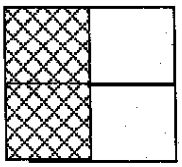
$\frac{2}{4}$

$\frac{4}{4}$

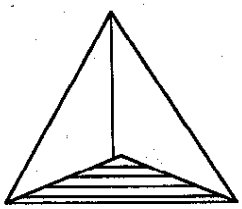
$\frac{1}{4}$

$\frac{2}{4}$

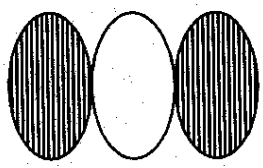
21. Circle the fraction of the shaded part,



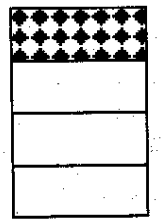
$\frac{2}{4}, \frac{1}{4}, \frac{3}{3}$



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



$\frac{2}{3}, \frac{3}{4}, \frac{2}{4}$

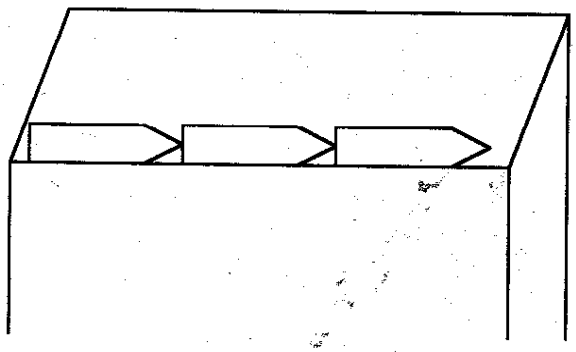


$\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$

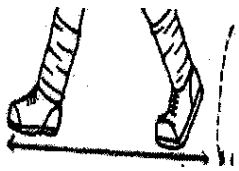
Measurements

Length

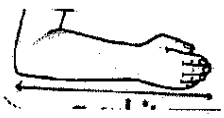
Pencil can be used to measure lengths



Parts of a body: a hand span, foot, a cubit hand, and a stride can be used to measure lengths.



a Stride

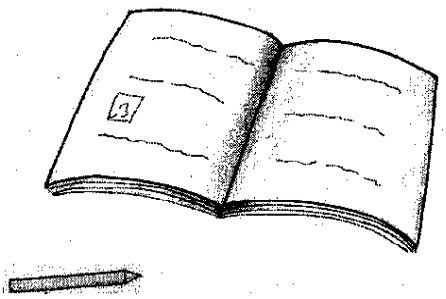


a cubit

hand span

foot

22. Find the length of your notebook using pencil.



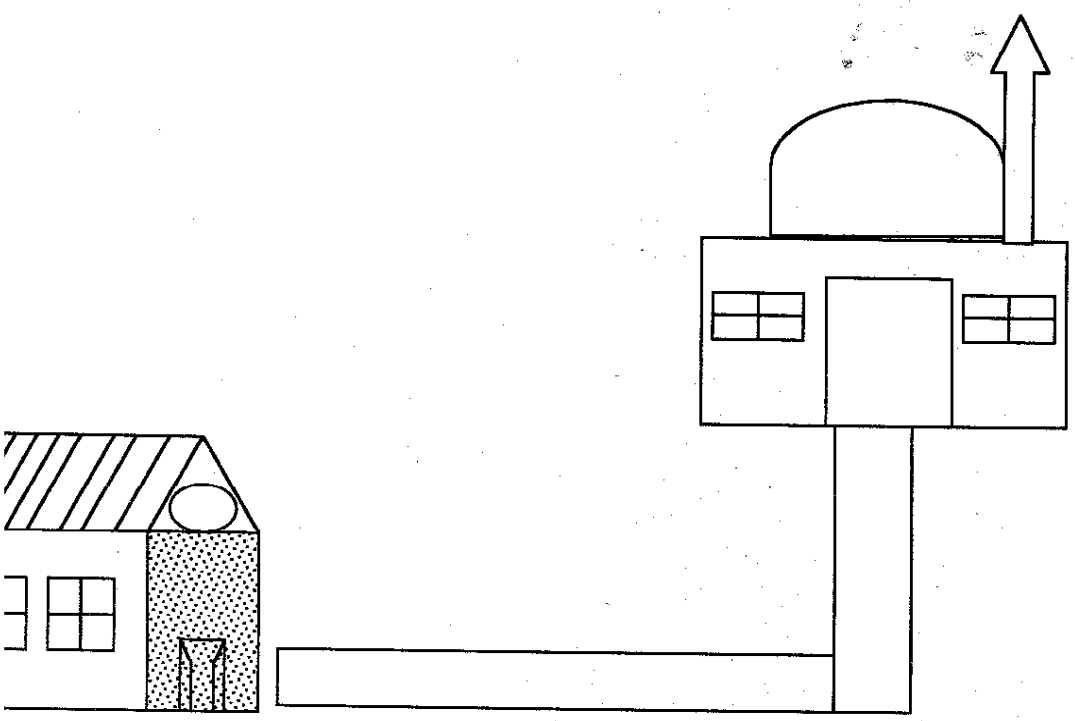
23. How many hand spans is the length of the black board?

3+2

Hand span

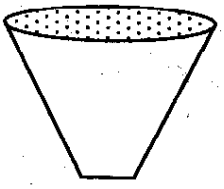
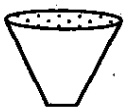
24. How many feet is the shadow of your classmate?_____
25. How many cubits is the length of your carpet?_____
26. How many strides is the length of your classroom?_____

27. Using strides find the distance between your home to the mosque.

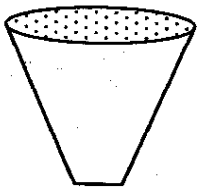


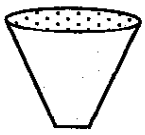
28. Which one holds more?

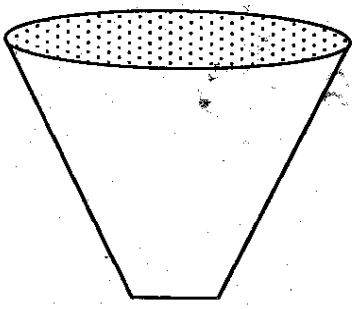

29. Which one holds less?

A litre is used to measure the capacity

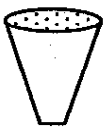

1 litre


Less than litre

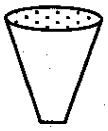

More than litre

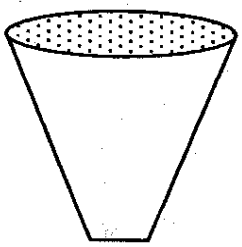
30. Circle the container which holds more than 1 litre.





31. Circle the container which holds less than 1 litre.

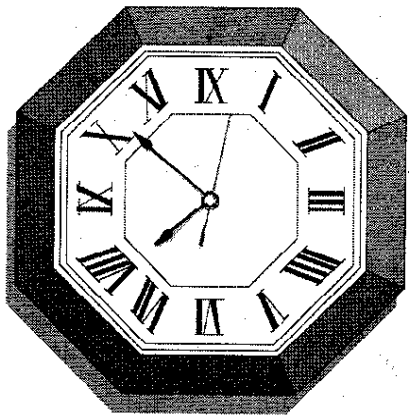




32. You have 25 Afs in your pocket, if you pay 7 Afs for a litre of milk. How many Afs will you still have?

_____Afs.

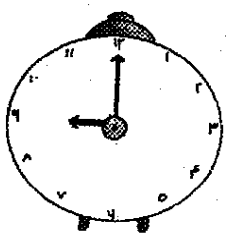
Time

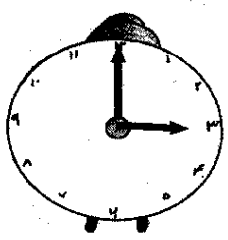


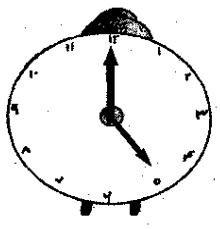
The short hand indicates the hours.

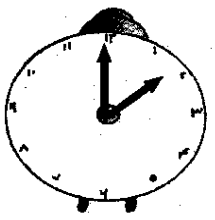
The long hand indicates the minutes.

33. What time is it?



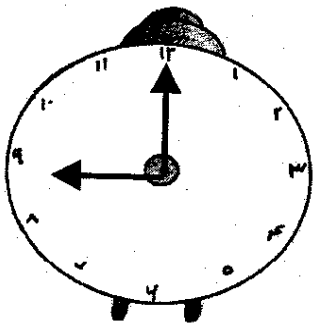




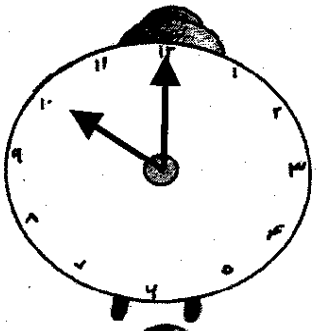


_____ _____ _____ _____

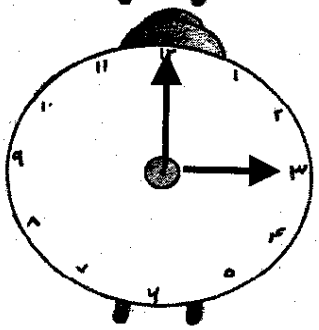
Match the time



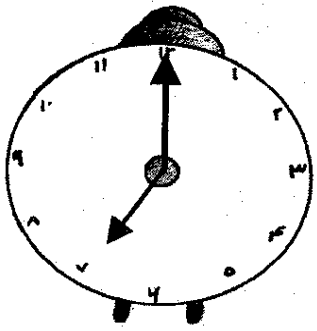
3:00



7:00



10:00



9:00

34. Circle the time you go to school. 8:00 10:00 4:00
35. Circle the time you eat your lunch. 9:00 12:00 2:00
36. Circle the time you go to bed. 10:00pm 8:00pm 11:00pm

Days of the Week

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

37. How many days are there in a week? _____days

38. Circle the day that comes after Monday — Wednesday Tuesday

39. Circle the day that comes after Wednesday — Thursday Friday

40. Circle the day that comes after Sunday — Saturday Monday

41. Circle the day that comes before Monday — Tuesday Sunday

42. Circle the day that comes before Thursday — Wednesday Tuesday

43. Circle the day that comes before Saturday — Friday Sunday

44. Circle the holiday of the week. — Friday Monday

45. Two days after Friday is — Wednesday Sunday

Months of the Solar year

Spring (Bahar)	**Aries (Hamal)**	**Taurus (Sower)**	**Gimini (Jawza)**
Summer (Tabistan)	**Cancer (Saratan)**	**Leo (Assad)**	**Virgo (Sunbula)**
Fall (Khazan)	**Libra (Mezan)**	**Scorpio (Aqrab)**	**Sagtarius (Qaws)**
Winter (Zemistan)	**Capricorn (Jadi)**	**Acquarius (Dalow)**	**Pisces (Hoot)**

46. How many months are there in a year? _____ months.

47. Match the seasons.

Spring — Hamal, Sowr, Jawza

Summer — Jaddi, Dalow, Hoot

Fall — Mizan, Aqrab, Qows

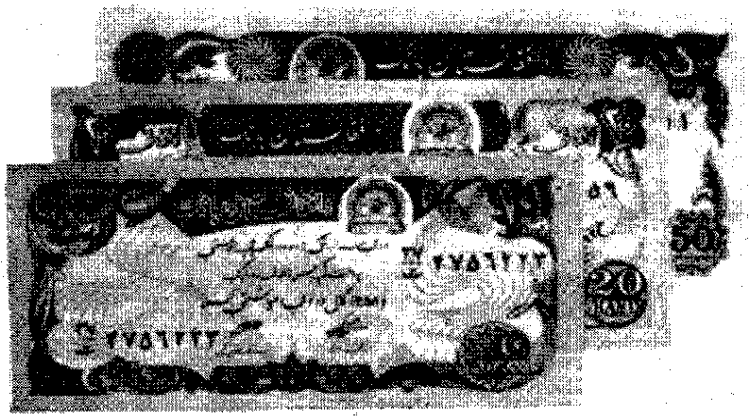
Winter — Saratan, Asad, Sunbula

48. Usually School starts in	Hamal	Saratan	Qaws
49. Circle the hot season	Fall	Summer	Winter
50. Circle the season in when snow falls	Summer	Winter	Fall
51. Circle the season when more fruits are available	Winter	Summer	Spring
52. Circle the first month of the solar year	Hamal	Saratan	Mezan

Money

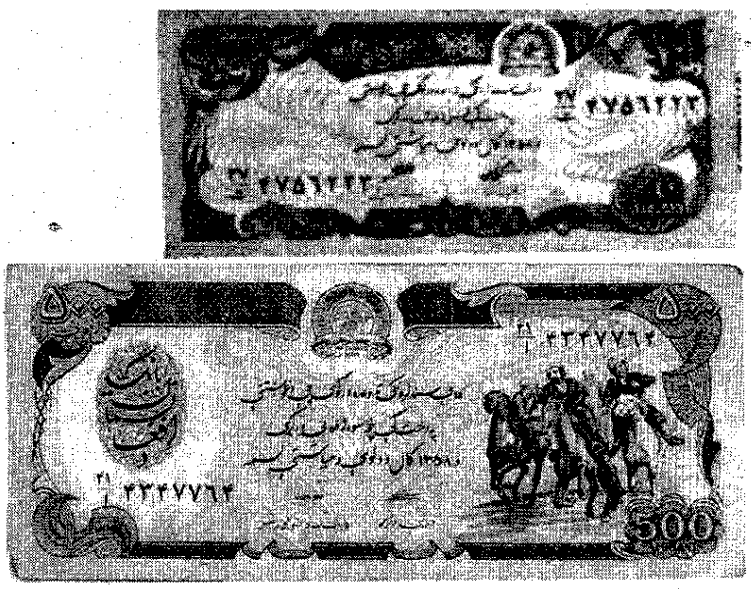
53. Write the amount

Add 50 Afs +20 Afs + 10 Afs



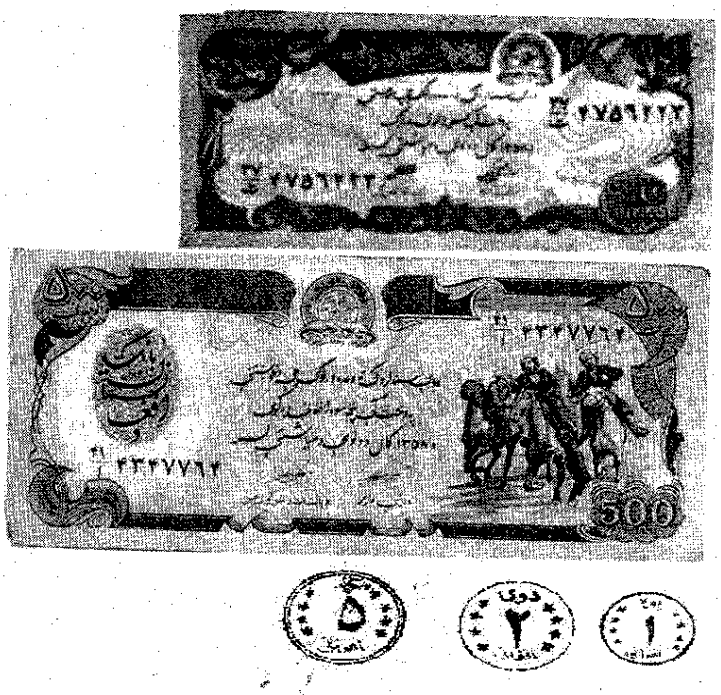
_____Afs.

Add 500 Afs + 10 Afs



_____Afs.

Add 500 Afs + 10 Afs + 5 Afs + 2 Afs + 1 Af

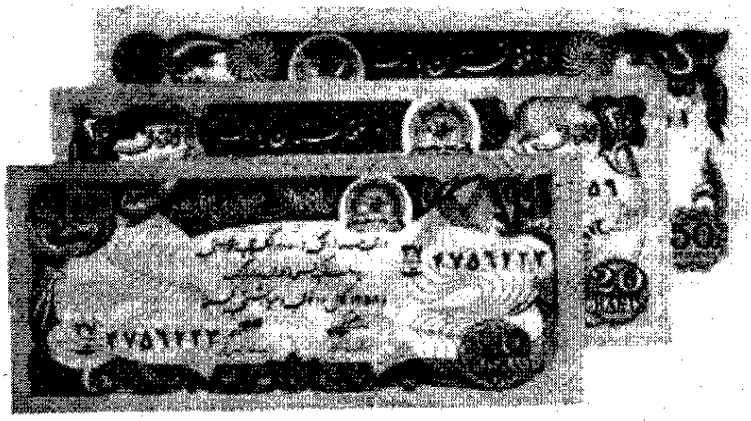


_____Afs.

Add 500 Afs + 10 Afs + 10 Afs

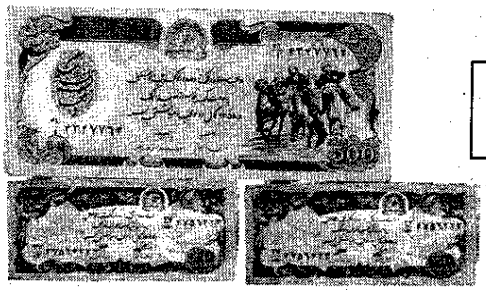
_____Afs.

Add 50 Afs + 20 Afs + 10 Afs + 10 Afs



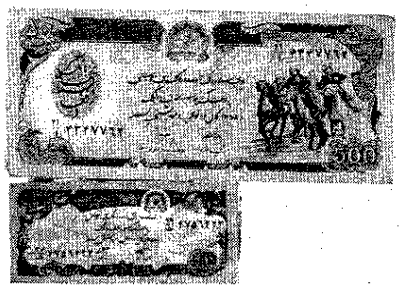
_____Afs.

54. Add and compare using <,>,=



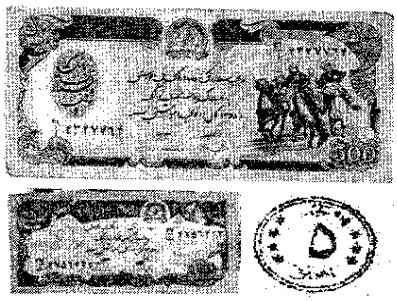
500 Afs + 10 Afs + 10 Afs

500 Afs + 10 Afs + 10 Afs

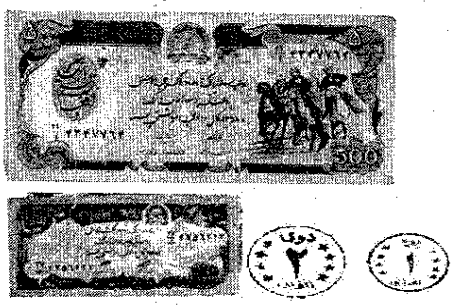


500 Afs + 10 Afs

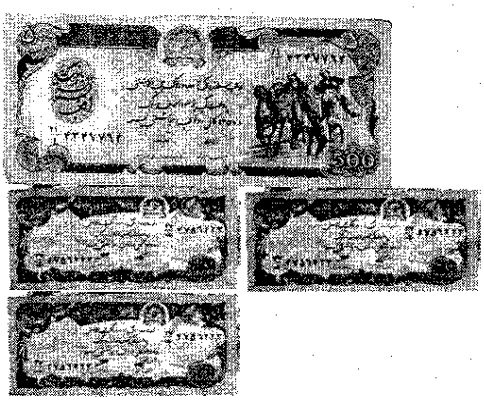
500 Afs + 10 Afs + 10 Afs



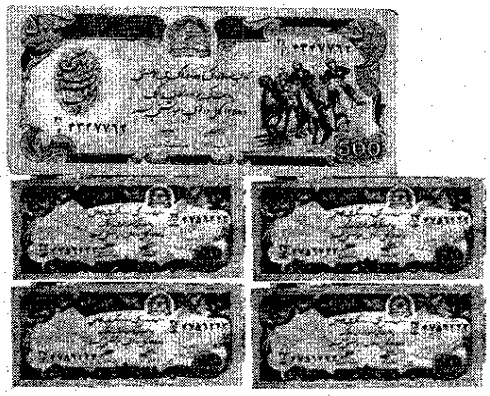
500 Afs + 10 Afs + 5 Afs



500 Afs + 10 Afs + 2 Afs + 1 Af

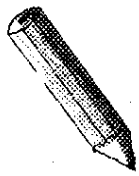


500 Afs + 10 Afs + 10 Afs + 10 Afs

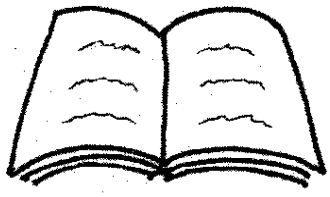


500 Afs + 10 Afs + 10 Afs + 10 Afs + 10 Afs

55. How many Afs must one pay?



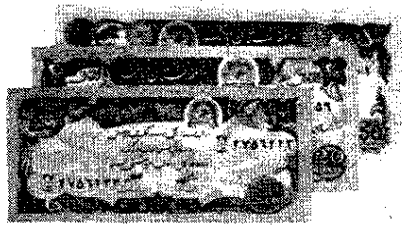
15 Afs



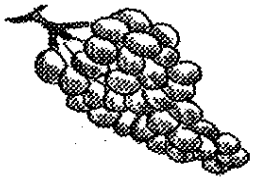
136 Afs

_____ Afs

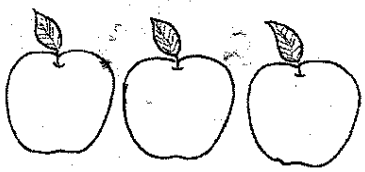
56. How many Afs remains?



Hameed has
50 Afs + 20 Afs + 10 Afs
_____Afs



Hameed bought grapes for
15 Afs



Hameed bought apples for
76 Afs

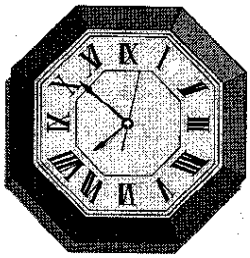
How many Afs did Hameed pay? _____

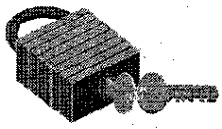
How many Afs remains? _____

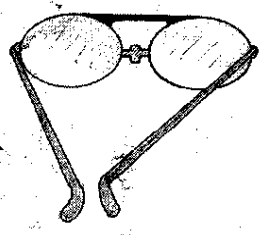
Latifa has

500 Afs + 10 Afs + 10 Afs

_____Afs







Latifa bought a clock for 150 Afs

Latifa bought a lock for 65 Afs

Latifa bought eyeglasses for 250 Afs

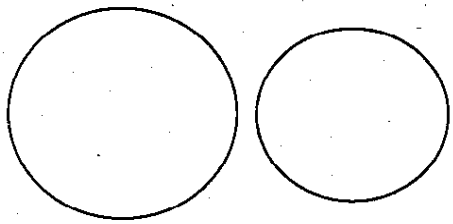
How much money did Latifa have? _____

How much did she spend? _____

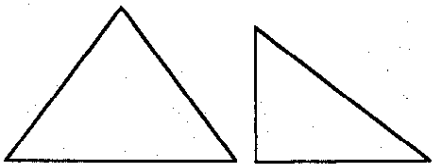
How much money does she still have? _____

Geometry

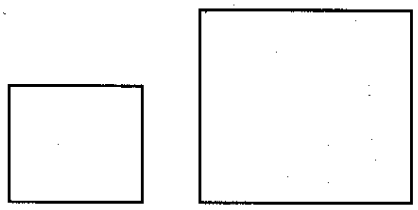
The students will be able to recognize that:



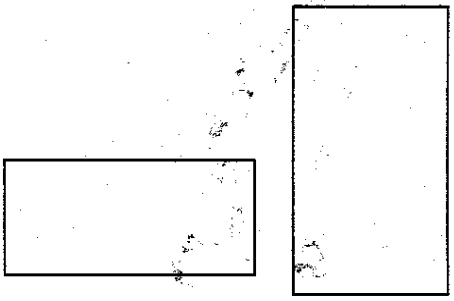
Circles have no sides



Triangles have three sides

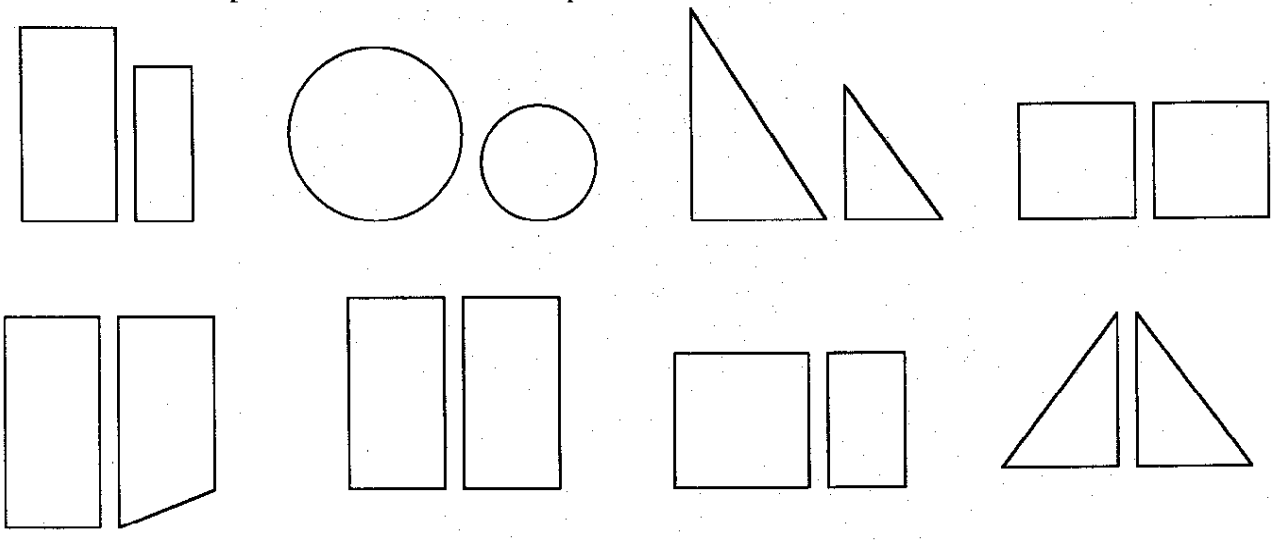


Squares have 4 sides
All the same length



Rectangles have 4 sides
Each two facing sides are the same length

44. Circle the pairs that are the same shape and size.



45. Answer these questions:

How many sides does a triangle have? _____

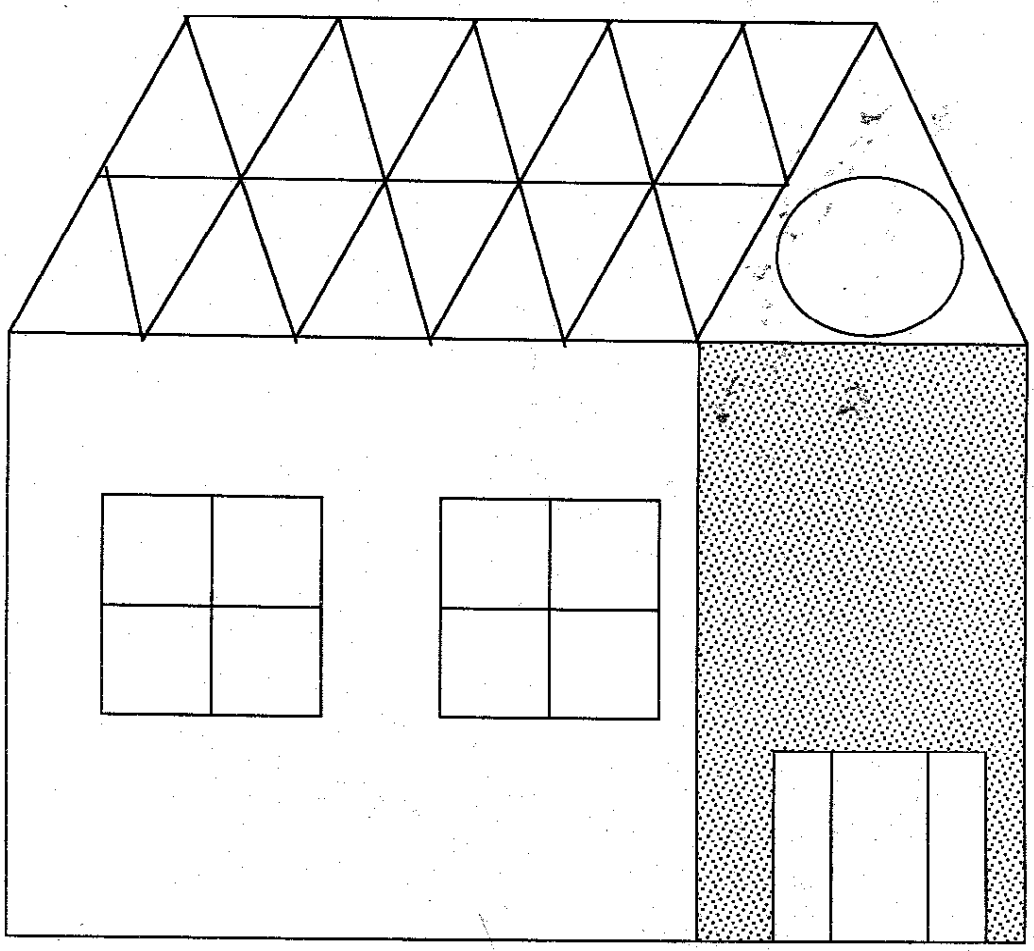
How many sides does a cirlce have? _____

How many sides does a rectangle have? _____

46. Answer YES or NO:

The sides of a rectangle are the same length. **Yes** **No**

The sides of a square are the same length. **Yes** **No**



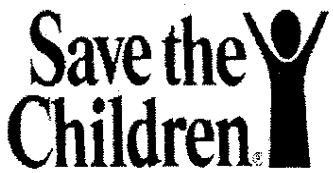
47. Write the number of :

Circles ☐

Triangles ☐

Squares ☐

Rectangles ☐



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