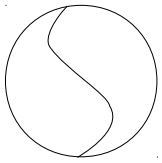
Lesson № 1

Addition and Subtraction: a Whole and its Parts.



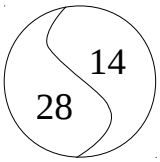
1 Finish all 4 possible equalities:

28 + 14 =

14 + 28 =

42 – 14 =

42 – ☐ =

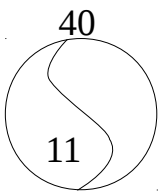


11 + ☐ = 40

☐ + ☐ = ☐

☐ – ☐ = ☐

☐ – ☐ = ☐



☐ + ☐ = ☐

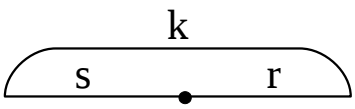
☐ + ☐ = ☐

65 – 32 = ☐

☐ – ☐ = ☐

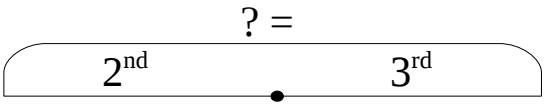
2 According to the drawing:

k = ☐ + ☐ s = ☐ – ☐ r = ☐ – ☐

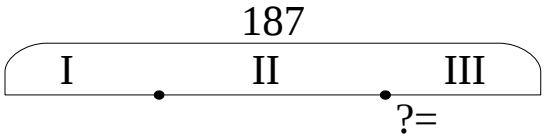


3 Complete the auxiliary drawings to solve the word problems:

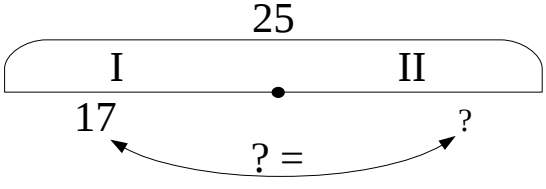
a). A school is buying math textbooks for its second- and third-graders. How many textbook does the school need to buy for all these students if there are 248 students in the second grade and 312 students in the third grade? Each student needs one textbook.



b). A car dealer has sold 187 cars in 3 days. On the first day he sold 25 cars. On the second day he sold 20 more cars than on the first day. How many cars did he sell on the third day?

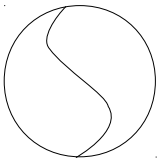


c). There are 25 books on two shelves. On the first shelf there are 17 books. How many more books are on the first shelf than on the second?

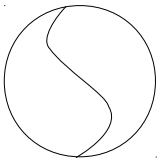


4 Complete the diagrams to solve the equations

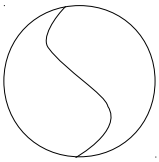
25



	x	+	5	=	25			
	x	=						
	x	=						



	y	–	3	=	7			
	y	=						
	y	=						



	16	–	q	=	7			

5 Jeopardy: **write the expressions** to solve the following word problems:

1. A factory manufactures 5 buses a day. Another factory manufactures 7 buses a day. How many buses do the both factories produce every day?

? = 5 + 7

I • II

5 7

5 + 7

2. A factory manufactures ***m*** buses a day. Another factory manufactures ***k*** buses a day. How many buses do the both factories produce every day?

3. A factory manufactures 5 buses a day. Another factory manufactures each day 3 buses more than the first one. How many buses do the both factories produce every day?

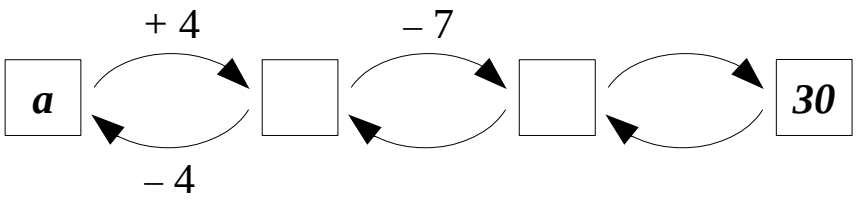
4. A factory manufactures ***x*** buses a day. Another factory manufactures each day ***y*** buses more than the first one. How many buses do the both factories produce every day?

5. Two factories manufacture ***q*** buses a day. One of them manufacture ***r*** buses a day. How many buses does another factory manufacture?

Operations ,Expressions, and Programs:

6 Finish the drawing and solve the riddle:

I thought of a number, then I added 4 to this number. Next I subtracted 7 from the result. Finally, I added 25 and obtained 30 as a result. Which number did I think of?

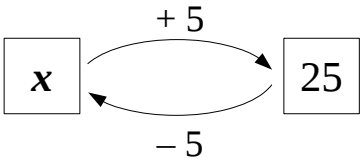


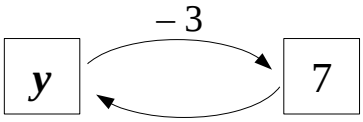
7 Use operations to analyze and solve the following equations:

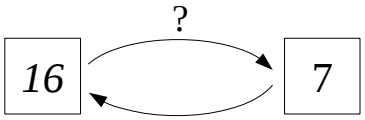
	$x + 5 = 25$						
	$x =$						
	$x =$						

	$y - 3 = 7$						
	$y =$						
	$y =$						

	$16 - q = 7$						







8 In which order should the operations in the expressions be performed?

a). $26 + (32 - 16)$ (② + ①)

b). $(247 - 123) + (384 - 164)$

c). $93 + (12 + 16) - 35$

d). $a + b - c + d$

e). $(a + b) - (c + d)$

f). $a + (b - c) + d$

9 Insert parentheses into the expressions according to the programs and evaluate these expressions.

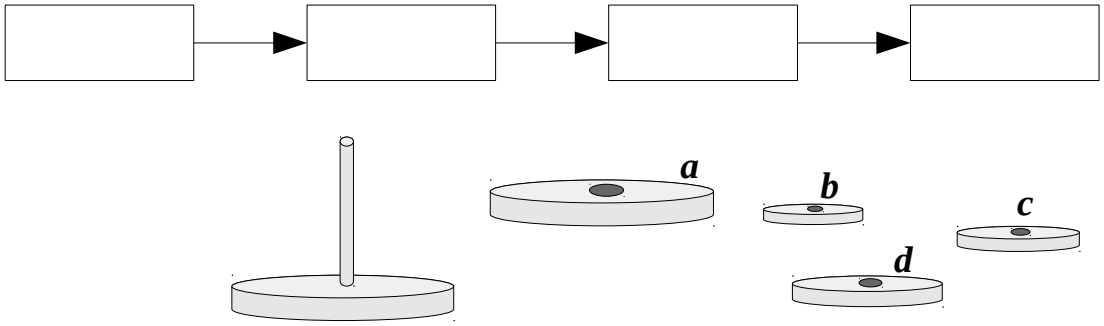
a). $3 + 8 - 2 =$ (② ①)

b). $9 - 3 - 5 =$ (① ②)

c). $4 + 7 + 2 - 5 =$ (② ① ③)

d). $6 + 1 - 5 - 3 =$ (① ③ ②)

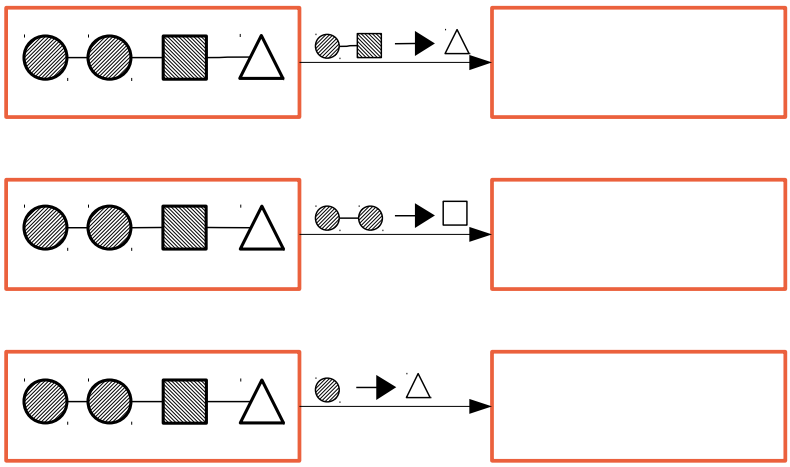
10 Write a program for putting up a pyramid from its parts



Write the program of disassembling this pyramid into parts.

Replacements:

11 Replace according to the instructions:



12 Replace according to the instructions:

$p + v - 4$	$p \to x$	
$t + q$	$q \to u \cdot 3$	
$7 + m + n$	$m = n + n$	
$12 : x - y$	$y = t : 8$	

Points and Lines:

Point is a fundamental concept of geometry that has no size. To see a point, it has to be labeled with a visible mark.

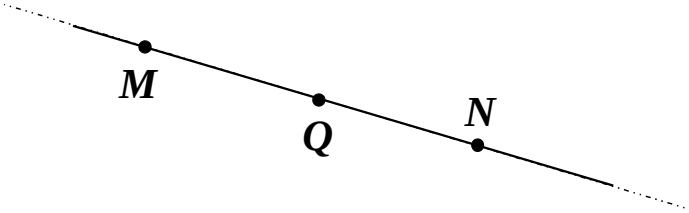
13

How many points are labeled on the drawing? _____

How big are these points? _____

What is the difference between a point and its label? _____

All lines are made of points.
Lines may be curved or straight.



There is only **one straight line** that goes through any two points. Therefore, straight lines are often named using a pair of points.

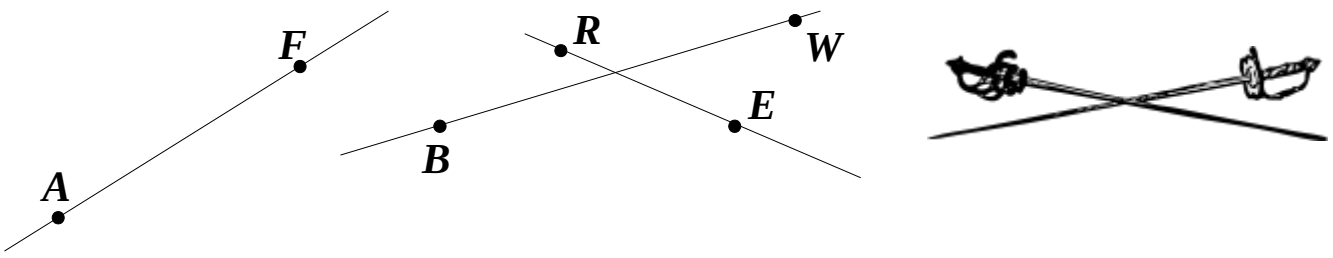
14

What is the difference between the straight lines ***MN*** and ***QN*** above? _____

What some of the other names can you give to the straight line ***MN***? _____

A straight line goes on indefinitely in both directions just like the line ***MN*** above.

15

Show that all three straight lines on the drawing cross.

Label the points where these lines intersect. Name these points.