Homework for Lesson № 7

1 Write expressions to solve the word problems and evaluate them where possible:

A. A family of four spent ***m*** dollars on a concert tickets. How much would the tickets cost to a family of six?

_____

B. An 8 kg sample of Alaskan clay contains 72 micro-grams of gold. How many micro-grams of gold are in 10 kg of clay?

_____

C. One mouse brother can eat ***w*** apples in one day. How many apples can 4 brothers eat in 3 days?

_____

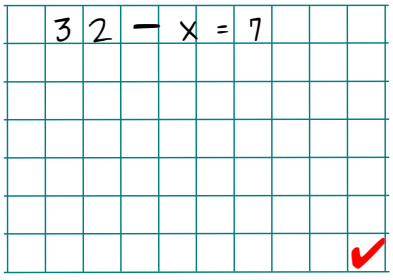
D. A store keeps banana in boxes (7 kg per box) and apples in bags (3 kg per bag). A worker put on a cart x banana boxes and y apple bags. How big is the load?

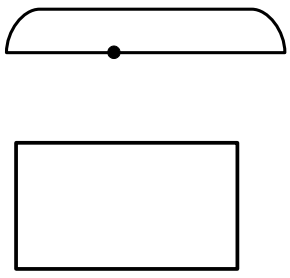
_____

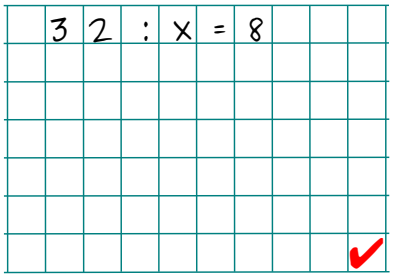
E. Nick can hike 12 km in 2 hours. How many kilometers can she hike in 3 hours?

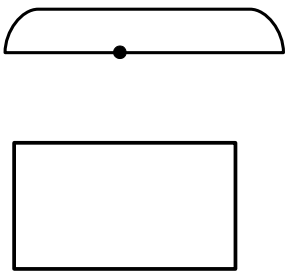
_____

2 For each equation choose the correct auxiliary drawing. Use it to solve the equations and then check your answer.







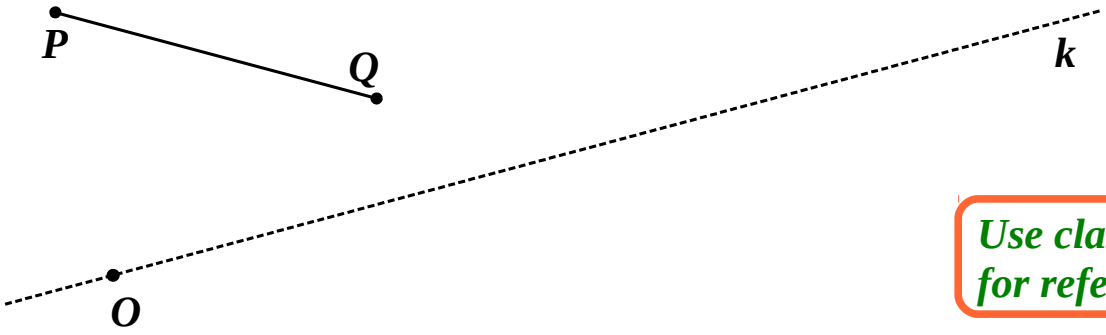


3 ***k*** is a straight line. Point ***O*** ∈ ***k***.

A. Use compass to find point ***A*** such that: 1. ***A*** ∈ ***k***

and

2. |***OA***| = |***PQ***|



Use classwork for reference!

Record your algorithm BOTH in plain English AND in symbolic form.

Writing Program Steps		
	Plain English Writing	Symbolic Writing
1.	Plot _____ _____ _____	Plot _____
2.	Find _____ _____ _____	Find ***A***: _____ _____

B. Use compass to find point ***B*** such that: 1. ***B*** ∈ ***k***

and

2. |***AB***| = |***PQ***|

Record your algorithm Either in plain English OR in symbolic form.

1. _____

2. _____

Explain your choice of English vs symbolic writing: _____

4 **In your notebook** solve the equations. Make drawings if you need. Check your answers and copy them below once they are correct.

$519 - x = 67$ $y + 209 = 304$ $z - 25 = 76$

$x =$ _____ $y =$ _____ $z =$ _____

$p : 5 = 7$ $q \times 7 = 42$ $72 : w = 9$

$p =$ _____ $q =$ _____ $w =$ _____

5 Arthur went to the store 4 times last month. He buys 5 bottles of apple juice each time he goes to the store. How many bottles of apple juice did Arthur buy last month?

_____

There are 8 pencils in each box. How many pencils are in 9 boxes?

_____

There are 20 liters of honey total in 3 jars. How many liters will be in one jar if we distribute all that honey evenly among 10 jars?

_____

We need 120 logs to build 2 houses. How many logs do we need to build 6 houses?

_____

Evelyn went to the store 8 times last month. She buys 11 stickers each time she goes to the store. How many stickers did Evelyn buy last month?

_____

6 Mark the order of operations and calculate:

$7 + (8 + 9) - 3 =$ _____ $9 - (2 + 7) =$ _____

$(2 + 9) + 9 \times 6 =$ _____ $9 \times 3 - (6 - 4 + 5) =$ _____

$(18 + 9) - (6 + 2 \times 6) =$ _____ $(5 + 1) \times (3 - 2 + 4) =$ _____

7 There are several marbles in a bag including ***x*** red marbles. There are 3 times more green marbles than the red ones. The number of orange marbles is ***y*** less than the number of green.

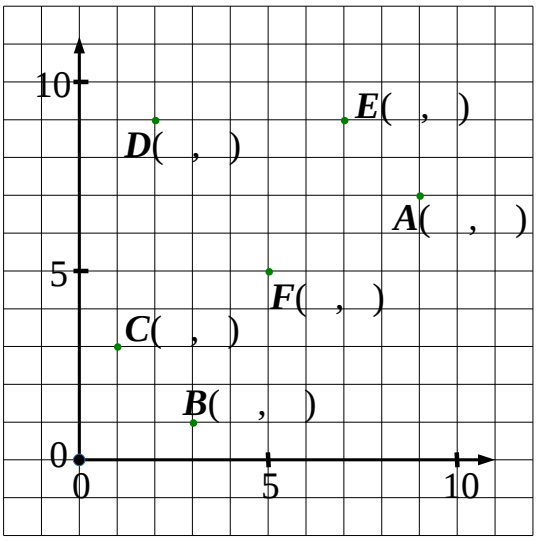
Complete the drawing and use it to explain the meanings of the expressions below.

*Try to identify the "**nonsense**" expressions*

Beware of nonsense!

$x \times 3$	# of …
$x : 3$	
$x \times 3 - y$	
$x \times 3 - x$	
$x \times 3 + x$	
$x \times y$	
$(x \times 3) \times (x \times 3 - y)$	
$x \times 3 + x + x \times 3 - y$	

8 Write the coordinates of the points B, C, D, E, F.



Plot on the graph the points:

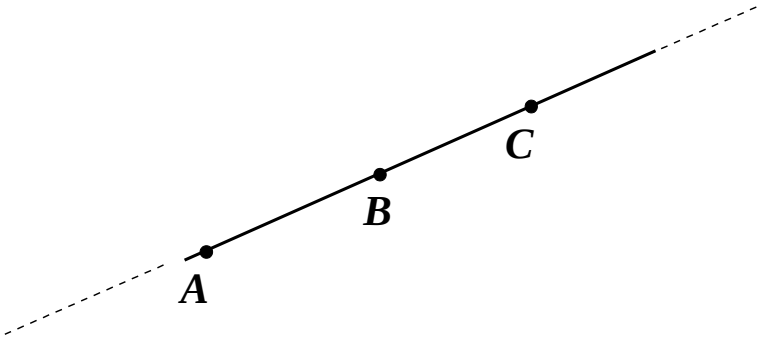
W(2, 7)

X(9, 2)

Y(3, 11)

Z(8, 3)

9 Fill in one of the symbols ∈, ∉, ⊂, ⊄ according to the drawing.



[***AB***] … ***AB**** [***AC***] … ***BC***

A … [***BC***] ***A*** … ***BC***

[***AB***) … ***BC*** [***AB***) … [***BC***)

C … [***AB***) ***C*** … [***BA***)

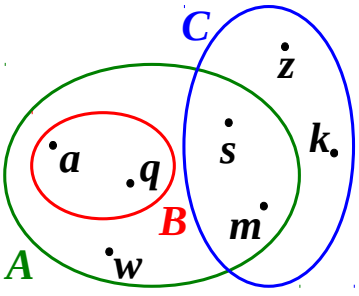
[***AC***] … [***AC***) [***AC***] … [***CA***)

10 Look at a Venn Diagram fro sets ***A***, ***B***, and ***C*** . Check ✔ the TRUE statements; cross mark ✗ the FALSE statements.

☐ ***B*** ⊂ ***A*** ☐ ***A*** ⊂ **B** ☐ ***m*** ∉ **C**

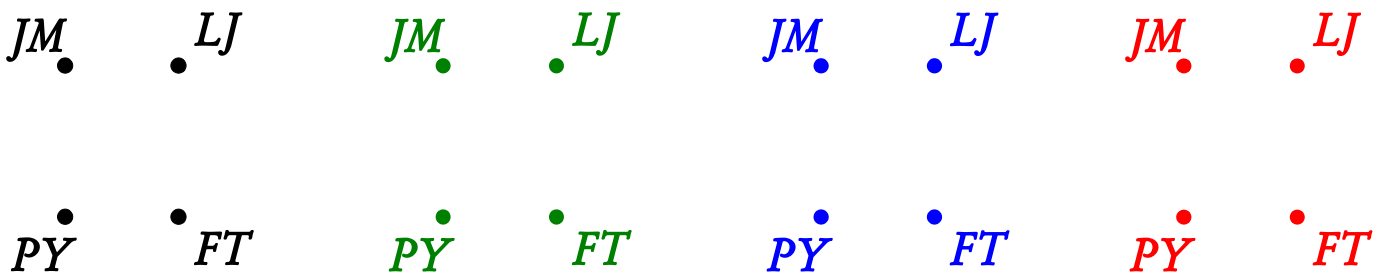
☐ ***a*** ∈ ***B*** ☐ ***a*** ∈ ***C*** ☐ ***a*** ∈ **A**

☐ ***s*** ∈ ***C*** ☐ ***m*** ∈ ***A*** ∩ ***C*** ☐ ***q*** ∈ **A** ∩ ***B***



11 Once Jake the Mouse obtained a shovel the brothers may start digging their mice holes. Since the shovel is an only one, they need to take turns digging.

Complete four graphs illustrating some possible ways the brothers may take turns digging.



1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____

Are there other possible ways to take turns digging? _____

12 There is a cat behind one door and a shovel behind another. The labels are ***EITHER both truth OR both false***.

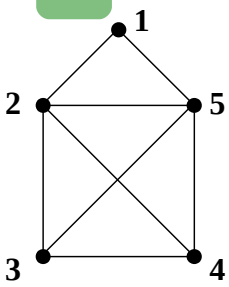
Find the shovel!

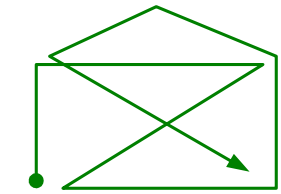
Insert figure with 2 doors

HW unit 5

13

Describing your Rout.



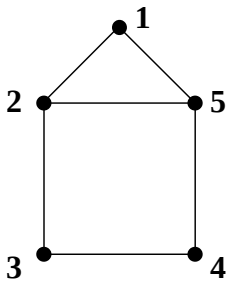


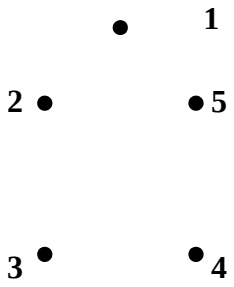
3-2-5-3-4-5-1-2-4

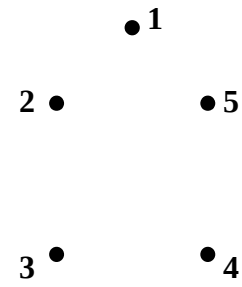
Walking a graph is described by listing the nodes in the order of visiting them.

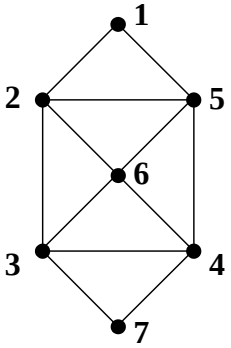
Each time you visit a node you list it again.

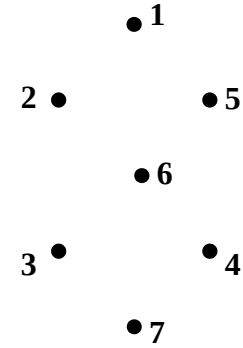
- Walk every edge of each graph without walking any edge twice.
- Describe you rout by listing the nodes in the visiting order.
- Walk the first two graphs in two different ways

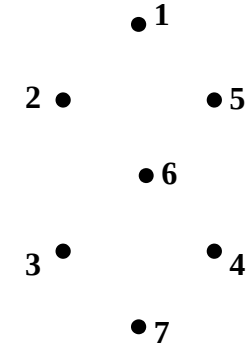


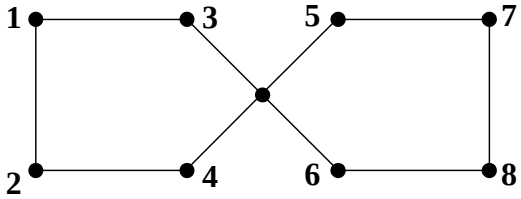


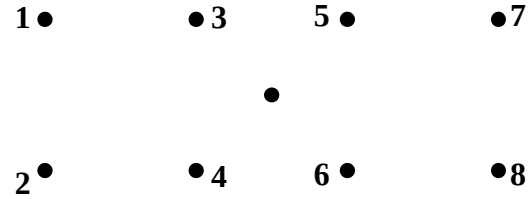




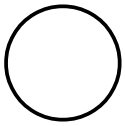
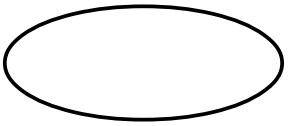
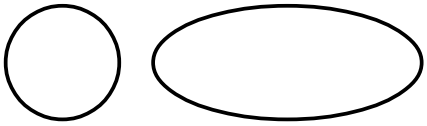
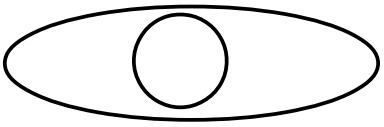
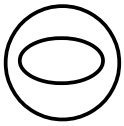
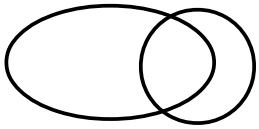




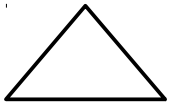




14 Complete the table by filling in the names of appropriate sets. If there is more than one correct option pick any.

	SETS	
		
		- two digit numbers
	- textbooks	
		- vowels
	- forest animals	

15 Complete the table by drawing a Venn Diagram for each pair of sets.

	SETS	
		
	- words	- nouns
	- even numbers	- numbers
	- flying animals	- birds
	- cookies	- cars