school nova™   **Math 2   Homework 12**

1

Compare without calculating:

$57 + 29 \ \square \ 57 + 30$ $57 - 29 \ \square \ 57 - 30$ $58 + 30 \ \square \ 59 + 29$

$65 + 18 \ \square \ 65 + 20$ $65 + 18 \ \square \ 63 + 18$ $65 + 18 \ \square \ 64 + 19$

$47 + 18 \ \square \ 50 + 15$ $47 - 16 \ \square \ 47 - 19$ $80 - 19 \ \square \ 81 - 20$

2

Calculate using commutative property of addition:

Example: 6 + 15+ 4 = (6 + 4) + 15 = 25

$17 + 7 + 13 + 3 =$ _____ = _____

$2 + 21 + 19 + 8 =$ _____ = _____

$1 + 35 + 19 + 5 =$ _____ = _____

$17 + 41 + 3 + 19 =$ _____ = _____

$28 + 13 + 12 + 7 =$ _____ = _____

3

The routes **KBT** and **MAN** pass through forest.
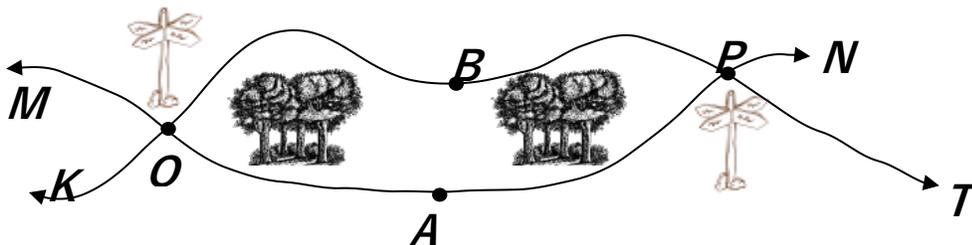
a) Name the points in which those two routes intersect _____

b) Which intersection point should you pass to get from point **K** to point **M**? _____

c) How many possible routes can you take to get from point **K** to point **N**? _____

4

Solve the problems:

a) If a winter day has 10 hours of daylight, then how many hours of darkness in the day? (Hint: the whole day has 24 hours).

_____

b) Last year Sasha was 7 years old. How old he will be in 2 years from now?

_____

5 Write the numbers in columns and calculate their sums.

$213 + 48 + 456$

$276 + 509 + 84$

$525 + 370 + 9$

$35 + 460 + 1$
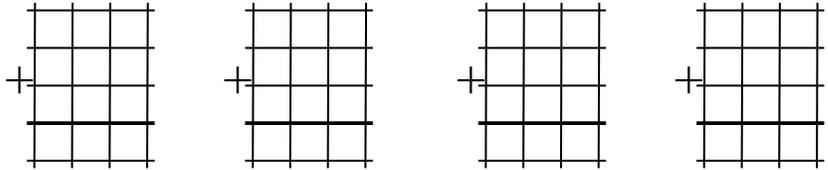
6 Compare using >, <, or =.

$456 - c$ __ $365 - c$ $207 + d$ __ $720 + d$ $a + 25$ __ $a + 125$

$x - 111$ __ $x - 9$ $340 - 0$ __ $340 + 0$ $b - 602$ __ $b - 62$

7 Study the pictures below and try to recognize the patterns. Then, draw the missing shapes in the empty boxes.
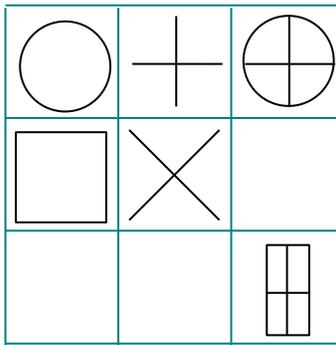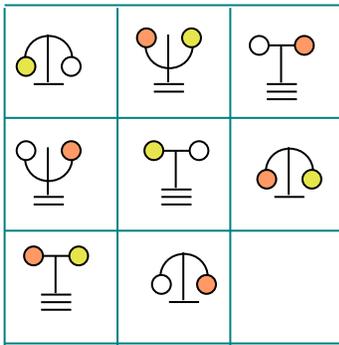
8 **Number the order of operations**:

a) $(a - b) + (c - d)$ c) $a + (b - c) - (d - k)$

b) $a - (b + c) - d$ d) $(a + b) - (c - d) - k$

9 **Write down the numerical expressions**, use parentheses to help yourself with a number of operations. Calculate the value of each expression.

To the sum of 45 and 36, add 5: _____

To the number 91, add the sum of 9 and 27: _____

From the sum of 78 and 46, subtract 28: _____

10 **Solve for x**. Check your answers.

$315 - x = 62$ $x + 407 = 530$ $x - 18 = 69 + 25$

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

2

11

Find the perimeter:

a) One side of a triangle is 3 m 4 dm 8 cm, the second side is 29 dm, and the third side is 4 m 2 cm.

What is the perimeter of the triangle in centimeters?

P =_____

b) A rectangle is 1 m 25 cm long and 3 dm 5 cm wide. What is the perimeter of the rectangle in centimeters?

P =_____

12

Ann drew two intersecting straight lines. She marked 3 points on one of the lines and 5 points on the other one. Totally she marked 7 points.
How is this possible? Show on the picture.
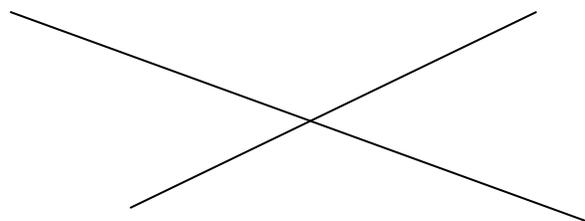
> **Removing parentheses.**
> $a + (b + c) = a + b + c$
> $a + (b - c) = a + b - c$
> $a - (b + c) = a - b - c$
> $a - (b - c) = a - b + c$

13

Find the value of the expressions by the most optimal way (open or don't open the parentheses):

a) $(48 + 12) - (34 + 26) = $ _____

b) $(66 + 36) + (44 - 26) = $ _____

c) $19 + 17 + (53 - 17) = $ _____

d) $39 + (58 - 29) + 32 = $ _____

14

Open parentheses (if it'll make your calculations easier) and calculate the value of each expression:

a) $295 + (32 - 95) = $ _____

b) $(123 - 75) - (23 + 25) = $ _____

c) $125 - (125 + 93) - 23 = $ _____

d) $(999 + 532) - 32 - (499 + 498) = $ _____