Lesson 9. Classwork

1. **Compare expressions using >, <, or =:**

a	$a + c$	$a + b$	$b + a$	$38 - b$	$68 - b$
b	$b - 5$	$k + 26$	$62 + k$	$a - 0$	$a + 0$
4	$d - d$	$54 + n$	$54 - n$	$c - 19$	$c - 90$

2. **Check if the equality $12 - 8 = 3 + 1$ still holds if**

a) We add 7 to the left part and 4 to the right part _____

b) We add 10 to the both parts _____

c) We add 5 to the right part _____

Check if equality $15 - 4 = 5 + 6$ still holds if

a) We subtract 5 from the right side _____

b) We subtract 6 from both sides _____

c) We subtract 1 from the left side and add 1 to the right side _____

3. **Circle the expression that you cannot compute. What do you need to know to compute the value of that expression?**

$8 + 12$ $a + 218$ $21 - 8$ $74 + 6$

4. **Write down the following expressions:**

The sum of **m** and **n** _____

The difference between **34** and **x** _____

The difference between **200** and **48**_____

NEW MATERIAL
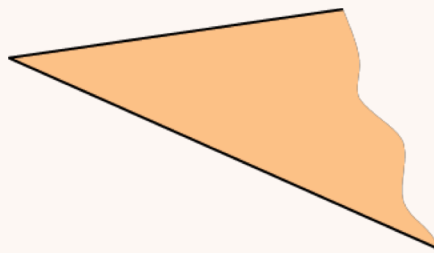
Some notations

In geometry we use:

Roman capitals as A, B, C, … for points,

Lowercase Romans letters as a, b, c, … for lines

Lowercase Greek letters as α, β, γ, … for angles

An **angle** is a figure formed by two rays sharing a common end point (vertex).

Every angle divides the plane into two regions: points inside the angle (that is, between the rays) and points outside the angle.
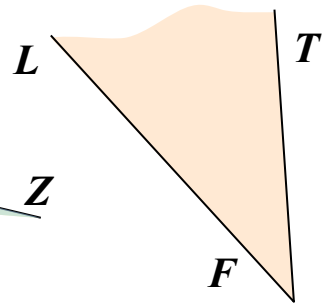
If the vertex of the angle is point **A** and the two sides are rays **AB** and **AC**, then the angle is denoted ∠**BAC** or simply ∠**A**

The word *angle* comes from the Latin word *angulus,* meaning "a corner."

5. Denote each angle in two different ways.
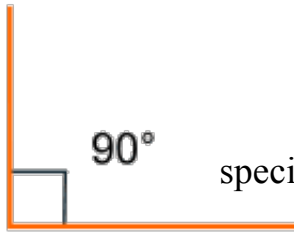
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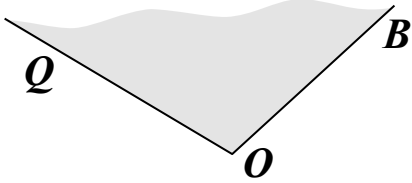
6. **Making a Right Angle Template.**

Fold a sheet of paper in half and then in half again. Using a ruler trace the creases with a pencil. How many straight lines did you get? How many angles do these lines form?

Note the **90°** special symbol in the angle. If we see this box, it is a right angle. The 90° is rarely written in.

All the angles below are right angles. Use your right angle template to check it.
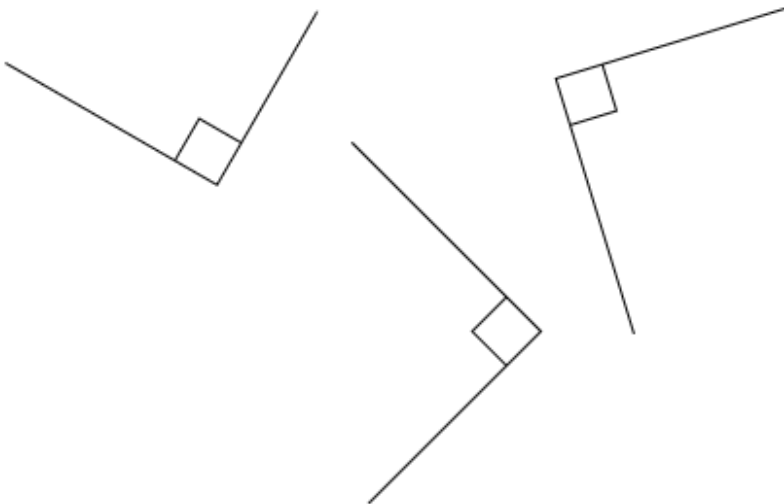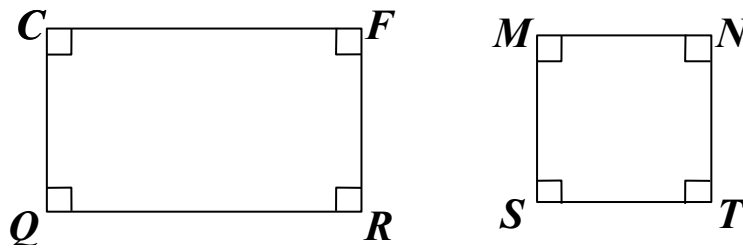
Find examples of right angles in a classroom.

Special quadrilaterals:

Rectangle: a quadrilateral in which all four angles are right angles.

Square: a quadrilateral in which all 4 angles are right angles, and all 4 sides are of equal length.
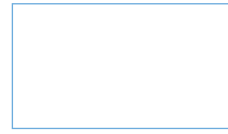

7.

There are 3 squares – big, medium and small and 3 circles – big, medium and small. Circle **A** is a small circle. Find all shapes which are different from shape A by only one property (shape or size).
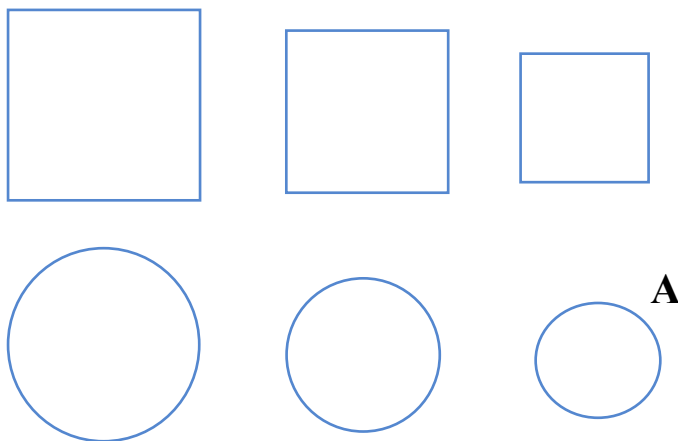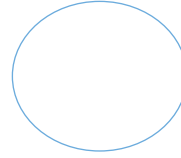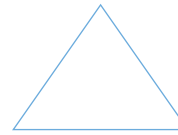
8.

Arrange the sets appropriately:

-Animals

-White animals

-Polar bears

REVIEW

9.

Write down expressions for the following problems and find their values:

a) Three boys together found 250 mushrooms. Peter found 86 mushrooms and Michael found 75. How many mushrooms did Nick find?

_____

b) Add 15 to the difference of 97 and 35

_____

10.

Paul has a 2 meter long rope. He needs three pieces: 10 cm, 3 dm, and 1m 30 cm. Can Paul cut all 3 pieces from the rope? If yes, how long will the remaining part of the rope be?

_____

11.

You are given a $3l$ jar, a $5l$ jar, and a sink. How do you measure exactly $1l$ of water?

Challenge yourself

12. A school divided 75 students into three teams. The first team has 25 students, the second one has 24 students. How many students are on the third team?

13. Donny and Andrew wanted to buy a book. Donny was $7 short, while Andrew was just $1 short. They decided to combine their money and buy one book for the both of them. After they combined their money, however, they still didn't have enough to buy the book. How much money each boy had in the beginning given that they did not have any coins?

14. Sam has a rope 1m and 60 cm long. How can he cut it to get an 80 cm piece and a 40 cm piece without any measuring tools?