school nova™   Math 3   Homework 9

1 Compare the expressions without calculating its values. Use <, >, =

$5 \times 6 - 5$ _____ $5 \times 5 + 5$ $7 \times 6 + 7$ _____ $6 \times 7 + 6$

$48 + 20$ _____ $4 \times 5 + 50$ $24 + 32$ _____ $(32 - 24) \times 7$

2 Calculate:

20 x 30 =   15 x 100 =   200 x 2 =

50 x 100 =   25 x 10 =   40 x 10 =

3 At the school's art exhibition 40 drawings were presented. Out of them 8 drawings were made in pencil, and the rest were made with paints. How many times more drawings are done with paints than with a pencil?
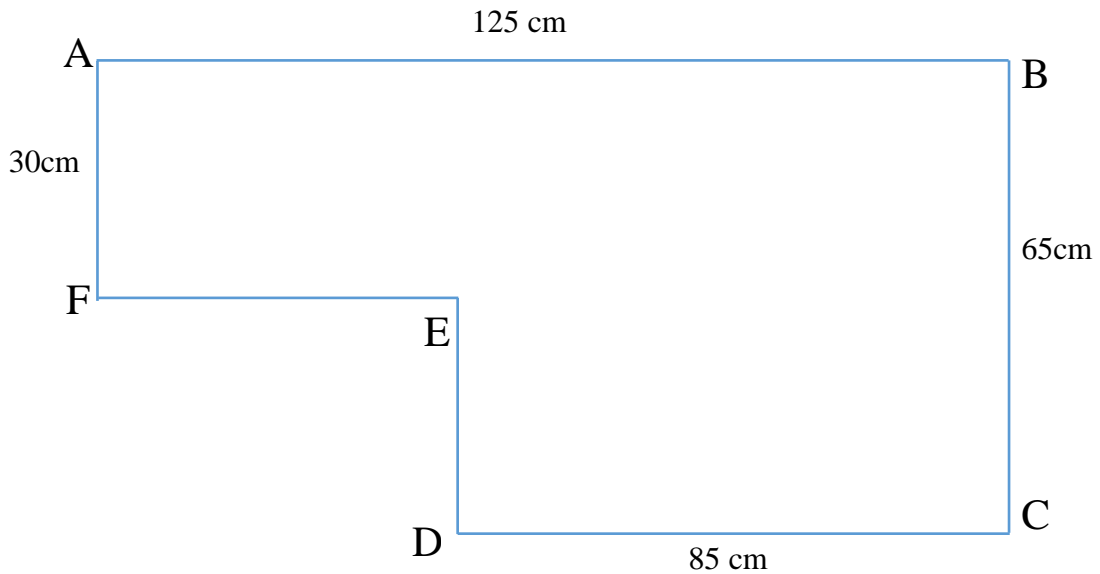
_____

_____

_____

4 Find the perimeter of the following figure, if you know some of the sides:

_____

_____

_____

5

Calculate:

  a) 9dm 1cm – 3dm 9cm – 2dm 7cm = _____

  b) 4dm 2cm + 5m 8dm – 7m 6dm = _____

6

Draw a four-sided polygon that has right angles at the 2 bottom corners, an angle less than 90^0 at the upper left corner, and an angle greater than 90^0 in the upper right corner.

7

Calculate:

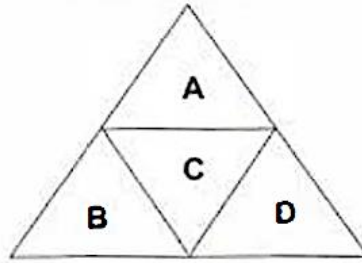|		
$548 + 0 =$	$0 + 491 =$	$864 - 0 =$
$346 - 346 =$	$0 + 0 =$	$0 - 0 =$
$111 \times 0 =$	$2 \times 0 =$	$0 \times 39 =$
20 x 30 =	15 x 100 =	200 x 2 =
50 x 100 =	25 x 10 =	40 x 10 =

8

Perimeter of quadrilateral is 16 cm (assume that each cell is 1cm). Draw several different quadrilaterals with the same perimeter – 16 cm.
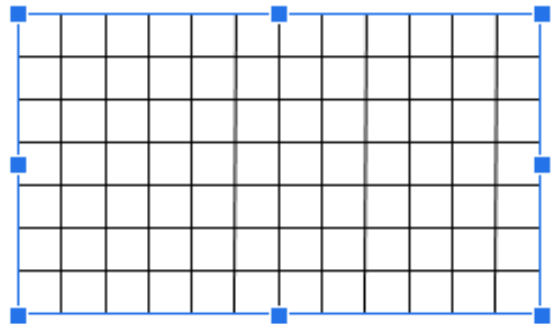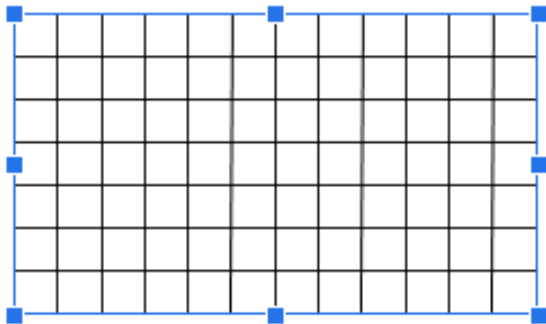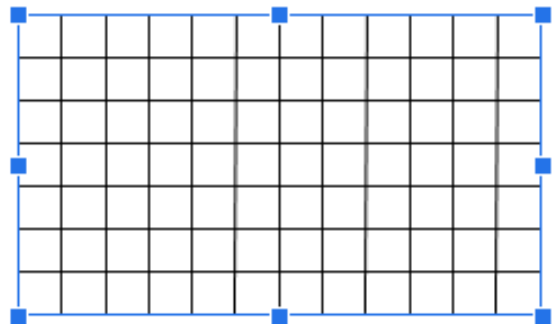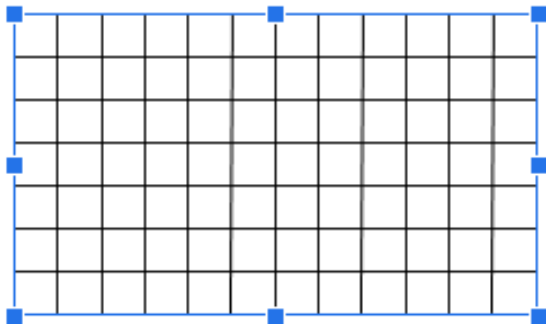
Method: Systematic counting

Example: How many triangles are there in the figure below?

Step 1. Count only triangles, which are formed by 1-unit triangle: A, B, C and D (total: 4)
Step 2. Count only triangles, which are formed by 2-unit triangles: NONE
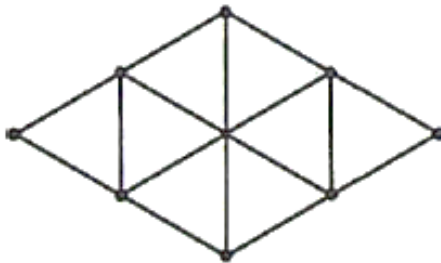Step 3. Count only triangles, which are formed by 3-units triangles: NONE
Step 4. Count only triangles, which are formed by 4-units triangles: A+B+C+D (total: 1)
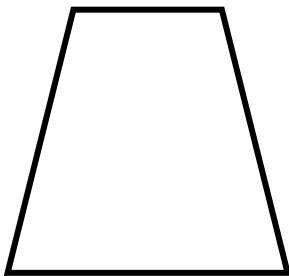Total: 4 + 0 + 0 + 1 = 5

9   How many triangles are there in the figure below (use a systematic counting method)?
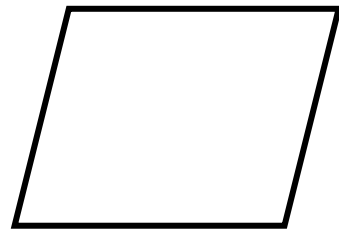

_____

10   Use a protractor to measure in degrees each of the angles in the shapes below:

_____   _____

11 Cora and Cecilia each use chalk to make their own number patterns on the sidewalk. Cora puts 0 in her first box and decides that she will add 3 every time to get the next number. Cecilia puts 0 in her first box and decides that she will add 9 every time to get the next number.

Cora:

0	3								

Cecilia:

0	9								

  a) Complete each girl's sidewalk pattern.

  b) How many times greater is Cecilia's number in the 5th box be than Cora's number in the 5th box? _____

c) What about the numbers in the 8th box? _____

d) The 10th box? _____

e) What pattern do you notice in your answers for part b? Why do you think that pattern exists? _____

f) If Cora and Cecilia kept their sidewalk patterns going, what number will be in Cora's box when Cecilia's corresponding box shows 108? _____

12 Complete the multiplication facts in the wheels below. Some answers have already been filled in.

13 The numbers 0 through 10 each appears only once in the shaded row and once in the shaded column. Fill in all missed numbers in the table.

×											
			9				0				
								16			
		25								30	
				4							16
									100		
	49										
			0								
					1						
				16							64
					81						

14 We know, that

$9 + 9 + 9 + 9 = 4 \times 9$ and

$4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = 8 \times 4$ and

$3 + 3 + 3 + 5 + 5 = 3 \times 3 + 5 \times 2$

Simplify:

a) $n + n + n + n + n =$

b) $a + a + a + a + b + b + b =$

c) $c + c + d + c + d + d =$

15 We know, that $7 - 7 = 0$, $11 - 11 = 0$.

Simplify:

$n - n =$

$a - a =$

$c - d - c + d =$

16 We know, that

$6 + 5 - 5 = 6$ and

$9 + 3 - 3 = 9$

Simplify:

$n + 5 - 5 =$

$16 + n - n =$

$a + 10 + a =$