Math 2 Classwork 13

WARM UP

1 Calculate using property of addition: try to make it easier to calculate!

7 + 16 + 3 =_____ __

11 + 8 + 9 = _____ __

7 + 6 + 7= _____ __

48 + 37 + 12 + 13 = _____ __

50 + 29 +21 = _____

2 Write down the numbers using digits:

two hundred ninety six _____ eighty six _____

three hundred two _____ forty six _____

six hundred twenty seven _____ five hundred forty eight _____

one hundred eighty_____ nine hundred sixty _____

3 a) Lisa's bag fits into Ann's bag. Ann's bag fits into Clara's bag. Whose bag is the biggest?

b) Ben's tea is colder than Paul's tea but warmer than Christina's tea. Whose tea is the coldest?

Homework Review

1. Insert operation signs +, – to get correct equalities:

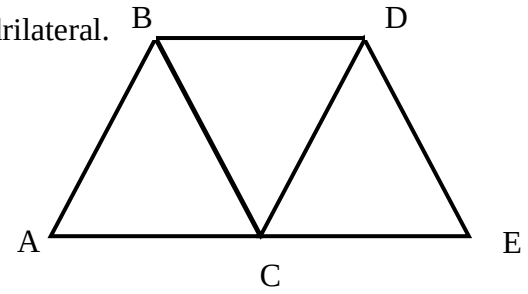
a) 8 __ 6 ___ 1___ 7 ___ 9 ___ 3 = 20

b) 7 ___ 9 ___ 8 ___ 4 ___ 3 ___5 = 20

2. The perimeter of the square is 32cm. Imagine the rectangle with a length equal to the square's side, and the width is 3cm shorter. Find the perimeter of the rectangle.

P = _____

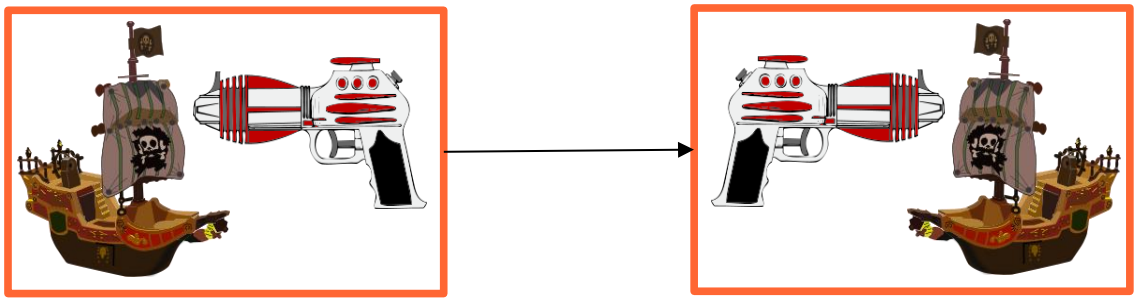
3. The quadrilateral is consisting of three equilateral triangles.
The side of the triangle is 6cm. Find the perimeter of the quadrilateral.
P = _____



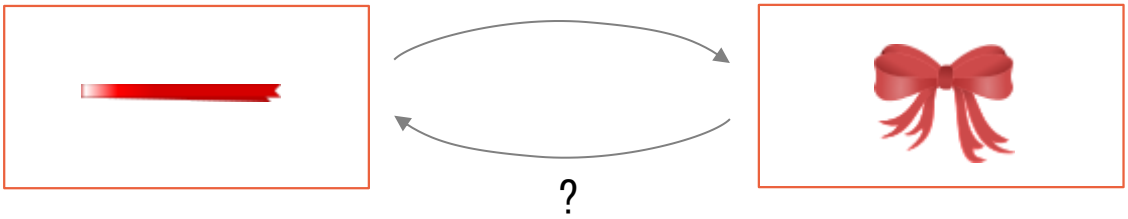
New Material I

In mathematics, **inverse operations** are operations that 'undo' each other. Most operations we use have an inverse. Addition and subtraction are inverse operations – they "undo" each other.

4 a) Look at the pictures below and describe what Jack did with the toys? Can this operation be reversed?



b) Name the operations performed on the picture below. Can this operation be reversed?



5 To prepare a soup, a chef has cut some vegetables. Can these operations be reversed?

6 Write the inverse operations for each action:

To put on a shirt	
To break a toy car	
To climb up a tree	
To pour water into a cup	
To turn on a TV set	

7 Mind reading game.

1. Think of any number from 1 to 50. _____
2. Add 25 to it._____
3. Subtract 20 from a product._____
4. Subtract 6 from a product_____
5. Add 50 to a product_____
6. Subtract 14 from a product_____.

What did you end up with?

Tell me the result and I'll tell you the number you thought of.

REVIEW

How do we work with parentheses?

The part between two parentheses is treated like a SINGLE number.

Removing parentheses.

$a + (b + c) = a + b + c$

$a + (b - c) = a + b - c$

$a - (b - c) = a - b + c$

8 Number the order of operations in the expressions.

m + (n – k) m + (n – k – t) + k

(m + n) – k m + n – (k – t + k)

9 Compare using <, > or =:

(27 + 16) – 43 ____ (60 + 15) – 74

51 – (13 + 19) ____ 12 + (85 – 79)

10 Open parentheses and calculate:

100 – (50 – 38) – (25 + 13) = _____

(49 + 11 – 16) – (92 – 76) = _____

(54 – 39) + (47 – 28) – (16 + 9) = _____

11 Calculate:

6dm 5cm – 4dm 9cm +48cm = _____

77cm – 29 cm + 1dm 9cm = _____

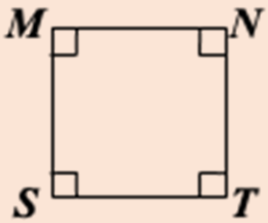
10m – 4m 7dm – 50dm = _____

New Material II

Special quadrilaterals:

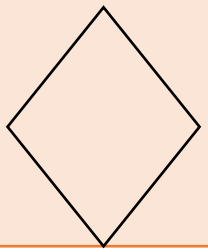
Rectangle: a quadrilateral in which all four angles are right angles.

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



Parallelogram: A quadrilateral with 2 pairs of parallel sides.

Rhombus: A parallelogram with 4 sides of equal length.



12 Answer the questions and explain your answers:

a) Can square be a rectangle?

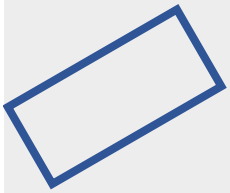
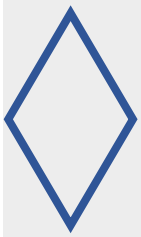
b) Can square be a parallelogram?

c) Can square be a rhombus?

13 Using a ruler, make a sketch of a parallelogram *ABCD*, with a side AB = 5cm and side BC = 10cm. Find other two sides and a perimeter of the parallelogram.

CD = ____ cm DA = _____ cm P = _____ cm

14 Look at each figure. Place an X in the box if it appears to describe the figure pictured.

				
4 vertices				
Four sides				
Opposite sides parallel				
Perpendicular sides				
Opposite sides have equal length				
All sides have equal length				

Did you know …

Origins of Parentheses

The symbols themselves first showed up in the late 14th century, with scribes using *virgulae convexae* (also called *half-moons*) for a variety of purposes.

By the end of the 16th century, the *parentheses* (from the Latin "insert beside") had begun to assume their modern role. Early occurrence of parentheses in math are found in the manuscript edition of R. Bombelli's Algebra (about 1550).

Leonhard Euler
(1707-1783)

Leonard Euler contributed vastly toward accustoming mathematicians to use parentheses. Euler was one of the most eminent mathematicians of the 18th century and is held to be one of the greatest in history. He is also widely considered to be the most prolific mathematician of all time. He wrote more than 500 books and papers during his lifetime, more than anybody in the field. He spent most of his adult life in St. Petersburg, Russia, and in Berlin, then the capital of Prussia.