Math 2 Classwork 12

WARM UP

1 What number am I?

a) When I am taken from 26, the result is 12. _____

b) When I have 18 added to me, the result is 49. _____

c) When I am decreased by 60, the result is 17. _____

2 Insert the correct number:

a) 3,687 has a ____ in the ten's place

b) 3,687 has a ____ in the thousand's place

c) 3,687 has a ____ in the hundred's place

Homework Review

3 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: _____

4 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) = _____

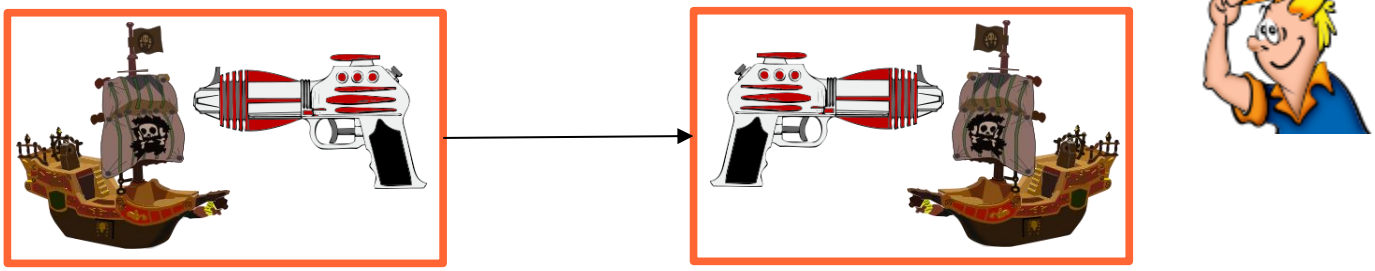
c) 125 – (125 - 93) – 23 = _____

d) (999 + 532) – 32 – (499 + 498) = _____

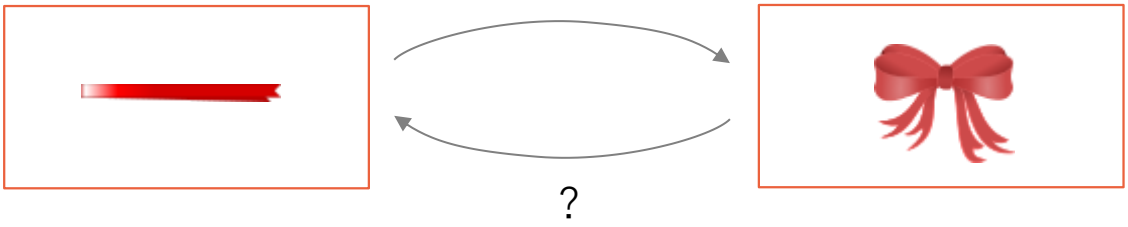
New Material I

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.

5 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?



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

7 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	

8

Mind reading game.

1. Think of any number from 1 to 50. _____x_____
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?

Removing parentheses.

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

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

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

9

Number the order of operations in the expressions.

m + (n – k) m + (n – k – t) + k

(m + n) – k m + n – (k – t + k)

10

Open parentheses and calculate:

100 – (50 – 38) – (25 - 12) = _____

(49 + 11 – 16) – (29– 26) = _____

(54 – 39) + (46 – 11) – (16 + 9) = _____

11

Calculate:

6dm 5cm – 4dm 9cm +48cm = _____

77cm – 29 cm + 1dm 9cm = _____

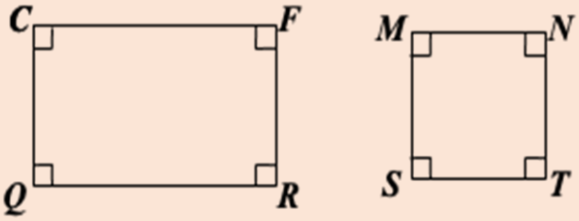
10m – 4m 7dm – 50dm = _____

New Material II

Special quadrilaterals:

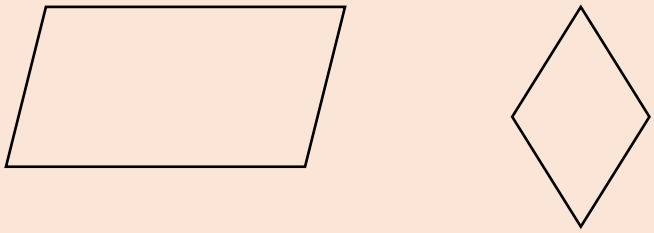
Rectangle: a quadrilateral in which all four angles are right angles.

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

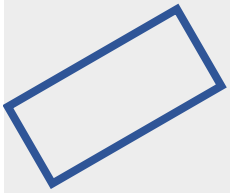
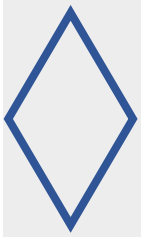


Parallelogram: A quadrilateral with 2 pairs of parallel sides.

Rhombus: A parallelogram with 4 sides of equal length.



12 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				

13 **Answer the questions and explain your answers:**

a) Can a square be a rectangle?

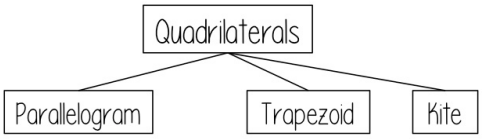
b) Can a square be a parallelogram?

c) Can a square be a rhombus?

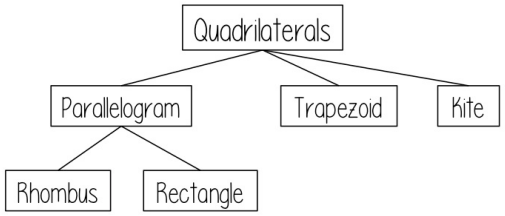
Did you know …

Quadrilaterals were invented by the Ancient Greeks. It is said that Pythagoras was the first to draw one. In those days quadrilaterals had three sides and their properties were only dimly understood. It was the genius of the Romans to add a fourth side and they were the first to make a list of the different kinds of quadrilaterals, but it wasn't until 1813 that an English mathematician, J.P. Smith, discovered the trapezium. Quadrilaterals remain a rich source of investigations for researchers, the best-known unsolved problem being to find a general formula for the number of interior angles.

In the quadrilateral family, there were three kids: parallelogram, trapezoid, and kite.
All the kids in this family have the same traits as the parents. Notice, that parallelograms, trapezoids, and kites all have four sides. Their interior angles all sum to 360°.



Parallelogram got married and had two kids: rhombus and rectangle. Since rhombus and rectangle are parallelogram's kids, they have all the same traits. Their opposite sides are parallel. They also have the same properties of their grandfather, quadrilateral.



All right y'all, this is where things kind of get sketchy. So, rhombus and rectangle… Well, they had a kid, named square. Trapezoid only had one child. He named his son, isosceles trapezoid, after him. Isosceles trapezoid has a few extra properties.

Kite didn't have any children.