

Homework for Lesson № 4

1 Compare the sets **A** and **B**.

Is there an element in the set **A** that is not included in set **B**? _____

Is there an element in the set **B** that is not included in set **A**? _____

$$A = \{ \text{♔}, \text{♕}, \text{♖}, \text{♗} \}$$

$$B = \{ \text{♕}, \text{♖}, \text{♗}, \text{♘}, \text{♔} \}$$

2 Construct a set **A** that is equal to set **D** = {☹, ☺, ♣}.

A = _____

Construct a set **B** that is not equal to set **D**.

B = _____

3 Construct all six possible listings of the elements of set **Q** = {a, b, c}.

1. a, b, c 2. _____ 3. _____

4. _____ 5. _____ 6. _____

Construct all six possible listings of the elements of set **Q** = {♥, ♣, ☒}.

1. _____ 2. _____ 3. _____

4. _____ 5. _____ 6. _____

4 Find the correct notation for an empty set:

A. {∅}

B. ∅

C. ⊖

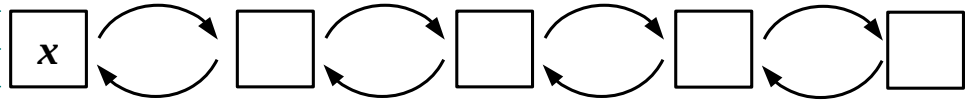
D. ∅

A set of _____ is an empty set.

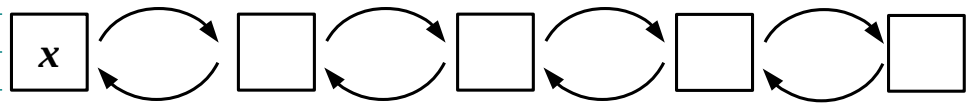
5

Solve the equations by undoing sequential operations.

x	$-$	8	$+$	3	$-$	4	$+$	1	$=$	2
$x =$										
$x =$										



x	$+$	5	$+$	3	$-$	6	$-$	12	$=$	5
$x =$										
$x =$										



6

Use rectangles to visualize the following equations and solve them:

8	
32	q

$q \times 8 = 32$

$q = _ \div _$

$q = _$

--

$35 \div x = 7$

$y = _$

$y = _$

--

$6 \times z = 42$

$z = _$

$z = _$

--

$t \div 8 = 9$

$t = _$

$t = _$

7

Number the operations and compute:

$8 - (7 - 2) = _$

$54 \div (4 + 2) = _$

$54 \div 4 + 2 = _$

$19 - (12 + 3) = _$

$21 - 6 \times 3 = _$

$(21 - 6) \times 3 = _$

$48 \div 6 \times 3 = _$

$60 \div (10 + 5) = _$

$60 \div 10 + 5 = _$

8 Solve the equations in your notebook and copy the answer here:

$$y + 119 = 476$$

$$239 - z = 215$$

$$x - 287 = 324$$

$$y = \underline{\hspace{2cm}}$$

$$z = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

9 The number of elements in the set of ...

... days of week is
... letters in the English alphabet is
... tails of Little Joe is
... stars in the solar system is
... horses living on the moon is

10 Place the \odot , \ominus , \blacktriangle , \circ , \oplus , \star into the Venn the diagram:

$$\odot \in C$$

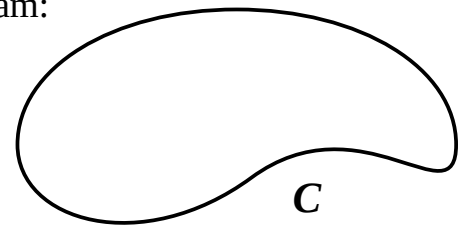
$$\ominus \notin C$$

$$\blacktriangle \in C$$

$$\circ \notin C$$

$$\oplus \in C$$

$$\star \in C$$



11 Evaluate the claims as TRUE (\square) or FALSE (\boxtimes)

$q = \text{Circ}(P, 3 \text{ cm})$

$q = \text{Circ}(W, 3 \text{ cm})$

$|WP| = 3 \text{ cm}$

$|VW| = 3 \text{ cm}$

$X \notin q$

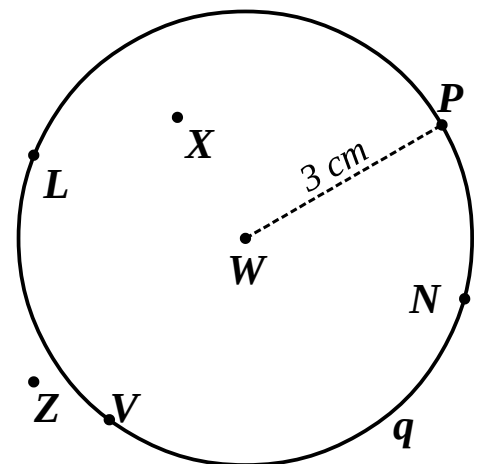
$N \in q$

$W \in q$

$|XW| < 4 \text{ cm}$

$q = \emptyset$

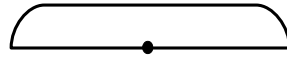
$|ZW| < 4 \text{ cm}$



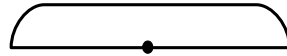
12

Select appropriate drawings and complete them to solve the word problems:

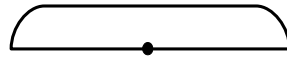
There are w neon fish in a fish tank. In another tank there are q more neons than in the first. How many neons are in both tanks?



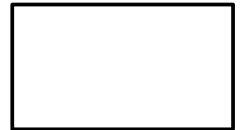
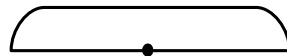
There are 6 turtles in each of n aquariums. How many turtles are there in total?



Lisa saved w dollars to buy a new bike. She needs to save q more dollars to purchase the bike. How much does the bike cost?



m books are distributed evenly among q shelves. How many books are on each of these shelves?



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Little Joe and Foxy Tail are here again. Little Joe always tells the truth, Foxy Tail always lies.

LJ: *I like to eat books.*

FT: *One of us likes to eat books, and the other does not.*

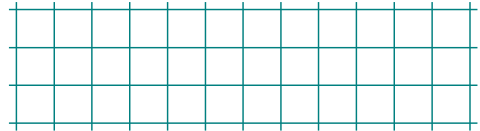
Does Foxy Tail like to eat books? _____

A book was chewed on. Can you tell which of the brothers ate it? _____



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Use a compass to plot the circles below.
Use the grid as you scale.



Remember, there are 2 cells per centimeter.

$$s = \text{Circ}(A, 4 \text{ cm})$$

$$d = \text{Circ}(B, 3 \text{ cm})$$

$$z = \text{Circ}(A, 5 \text{ cm})$$

$$f = \text{Circ}(C, 4 \text{ cm})$$

•
A

•
B

•
C

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Find the result without cumbersome calculations:

$$534 - 21 + 642 - 37 + 21 + 1 - 534 + 37 - 642 =$$

$$842 - 621 + 318 - 1 + 7 + 621 - 842 - 318 =$$

$$1257 - x - 219 + 328 - 1 + 9 + x - 1257 + 219 - 328 =$$

Compare:

16

$28 + b \square 28 + (b + 1)$

$28 + b \square 28 + (b - 1)$

$32 + 1 \square 32 + (1 + 2)$

$32 - x \square 32 - (x - 2)$

$43 - (c + 4) \square 43 - c$

$58 - (p - 6) \square 58 - p$

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Order the children on the line from young to old:

- Angie is older than Arthur
- Bob is younger than Katie
- Carl is the oldest
- Artur is older than Katie

Young

Old

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Carefully convert the following. Use your notebook cover to help you.

$200 \text{ cm} = \underline{\hspace{2cm}} \text{ dm}$

$200 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

$300 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$6 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

$500 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

$6 \text{ m} = \underline{\hspace{2cm}} \text{ dm}$

$900 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

$180 \text{ cm} = \underline{\hspace{2cm}} \text{ dm}$

$300 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

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Calculate:

$$\begin{array}{r} 816 \\ - 528 \\ \hline \end{array}$$

$$\begin{array}{r} \bullet 910 \\ 602 \\ - 208 \\ \hline \end{array}$$

$$\begin{array}{r} 706 \\ - 619 \\ \hline \end{array}$$

$$\begin{array}{r} 608 \\ - 302 \\ \hline \end{array}$$

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Simplify:

$q \div 5 + 4 = 29$

 $w =$

$(12-w)+5=9$

 $x =$