WORKSHEET 1: LINEAR EQUATION 1

1. **Write down the arithmetical problem according the dictation:**

2. **Translate the English words, you can use a dictionary:**

equations	
to solve	
solve	
inverse operation	
variable	
value of variable	
left side of equation	
right side of equation	

3. **Fill the inverse operation:**

INVERSE OPERATION	
addition X	+ X -
multiplication X	..... X ....

4. **I am thinking of a number. I double it and add 6. The answer is 20. What was the number I thought of?**

_____

It can be also written as an **equation**. Equation is an expression involving a **variable** (a letter), which is **equal** to a number. **Solving** the equation means finding the **value of variable** that makes it true.

2y + 6 = 20, where **y** is the variable.

A)

1. the table contains the variable (y), the left side of the equation, the right side of equation
2. the variable (y) equals the numbers 1, 2, ...
3. we solve the value of variable on left side of the equation
4. we solve the value of variable on right side of the equation
5. we find out the equation of the left side and right side

y							

6. the answer is **y =**

B)

To solve this equation, we need **y** on its own on the left or right side of equal symbol. We do this by applying the **inverse operations** to both sides.

1. eliminate „**+6**“ by doing inverse operation „**-6**“ to both sides of the equation
2. solve the left side and the right side
3. eliminate „**x2 (.2**)“ by doing inverse operation „**: 2**“ to both sides of the equation
4. solve the left side and the right side

2y + 6 = 20

EXTRA WORK

Solve this problem:

I am thinking of a number. When I double it and subtract 17, I get 15. Use the method B.

WORKSHEET 2: LINEAR EQUATION 2

1. **Look at this equation. Label it with these expressions:** solve, inverse operation, variable, addition, subtraction, multiplication, division, equation.

6x - 4 = 20

6x - 4 + 4 = 20 + 4

6x = 24

6x : 6 = 24 : 6

x = 4

2. **I am thinking of a number. When I triple it and add 5 I get the quintuple (pětinásobek) of the number thought of subtracted by 1.**

- write down the equation

.....=.....

- **A)**

1. the table contains the variable (x), the left side of the equation, the right side of equation
2. the variable (x) equals the numbers 1, 2, ...
3. we solve the value of variable on left side of the equation
4. we solve the value of variable on right side of the equation
5. we find out the equation of the left side and right side

x					

6. the answer is **x = ...**

- **B)**

1. Move all variables (x) to the left or right side of the equal symbol and all the numbers to the other side of the equal symbol. When the variable or the number moves over the equal symbol, its sign (plus, minus) changes.

2. Solve the left and right side of the equal symbol
3. Eliminate '**x2 (.2**)' by doing inverse operation '**: 2**' to both sides of the equation
4. Solve the left and right side of the equal symbol

3. **Do the check of your solving.**

Left side of the equation (L) **must be equal** to the right side of the equation (P):
(v češtině píšeme L – levá strana, P – pravá strana)

- **2y + 6 = 20**

L =
P =

- **3x + 5 = 5x - 1**

L =
P =

WORKSHEET 3: SOLVING THE PROBLEMS

1. Write down the equation according the dictation.

2. Solve these equations. Do not forget to do Check.

4z + 5 = - 5z - 4

Check:
L =

P=

- y + 5 = - 6y + 25

Check:
L =

P =

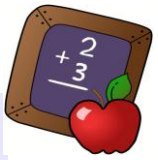
EXTRA WORK

2 .(2X + 6) = 5.(3x - 2)

Check:
L =

P =

3. Susan bought 3kg of Ontario apples. Afterwards she noticed the Golden apples. They were about CZK 3 cheaper than Ontario. So, she bought 2kg of Golden. The price in total was CZK 109. How much was 1 kg apples Ontario and how much was 1 kg of Golden apples?



1. Carefully read the text.
2. Choose the variable.
3. Write down the data entry depending on the variable.
4. Make up the equation.
5. Solve the equation.
6. Do the Check for the equation and for the data entry.
7. Write down the answer.

4. Solve this problem:

A three-day trip

Pupils of 8th class were on a three-day trip and they went 44 km in total.

The first day they went two times more than the third day and the second day they went about 4 km more than the third day. How many km they went each day?

WORKSHEET 4: FEEDBACK

Posuďte, zda splňujete následující body, a ohodnoťte se „SMAJLÍKAMA“

JMÉNO:			
Ze slovního popisu sestavím rovnici o jedné neznámé.			
Vyřeším lineární rovnici o jedné neznámé s proměnnou na jedné i obou stranách rovnice.			
Vysvětlím spolužákovi, co jsou ekvivalentní úpravy rovnic.			
Správnost svého řešení si ověřím zkouškou.			
Slovní úlohu z praxe vypočítám pomocí lineární rovnice o jedné neznámé.			
Anglicky pojmenuji matem. symboly: +, -, ., :, =			
Přiřadím anglická slovíčka: *inverse operation, variable, left side, right side of the equation* k jednotlivým částem rovnice.			
Rozuměl/a jsem zadání a pokynům v pracovních listech.			
Rozuměl/a jsem výkladu a pokynům učitele (i za pomoci prac. listů)			
Hodiny matematiky se mi v anglickém jazyce líbily.			