Survivor Series Level 4
Year 7 and 8 students.

Survivor Series 2017 Level 4

For Year 7 and Year 8 students.
Curriculum level 4.

What to do. For students.

1. **You can work with a friend or two friends!**
   Teams can be different each day.
2. **Do the tasks and enter your answers in your maths book and show your teacher.**
3. **If you are right you will get the next task.**
4. **If you are wrong, answer the task again.**
5. **When you have finished each day you will get a code word.**
6. **At the end of the week you will have 5 code words. Put them together and this will tell you where your school's Maths Week treasure is.**
7. **Good luck !**

Thursday **2017** **Algebra.**

Survivor Series **Level 4**

For Year 7 and Year 8 students. **Curriculum Level 4.**

Algebra !

For Year 8, Year 9, Year 10 and Year 11 students. **Level 4, 5**

What to do. For students.

1. **You are challenged to work alone.**
2. **For Task One, Task Two and Task Three you only need an answer.**
3. **For all the other Tasks you must set your working out before you get an answer.**
4. **If you are right you will get the next Task.**
   If you are wrong, find out from your Teacher where you made the mistake.
5. **Each Task has an example of the correct setting out of the answer.**
6. **You may need to do research to find the answer. Do this by asking your Teacher.**
7. **There are 15 tasks in this race.**
9. **Good luck!**

Algebra !

Task One. **Mystery Numbers.**

Find the number which goes inside the [ ] bracket.

$$4 \times [\ ] - 2 = 10$$

$$[\ ] = 3$$

Because 4 x 3 -2 =10

(a) **Find the number which goes inside the [ ] bracket.**

$$3 \times [\ ] - 2 = 4$$

(b) **Find the number which goes inside the [ ] bracket.**

$$5 \times [\ ] - 2 = 13$$

(c) **Find the number which goes inside the [ ] bracket.**

$$4 \times [\ ] - 12 = 8$$

(d) **Find the number which goes inside the [ ] bracket.**

$$2 \times [\ ] - 3 = 17$$

(e) **Find the number which goes inside the [ ] bracket.**

$$6 \times [\ ] - 8 = 10$$

Check your answers! **How many did you get correct?**

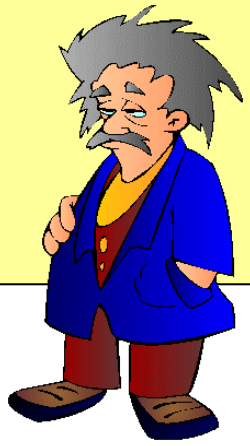
Task Two. Mystery Algebra Equations.

Let's change [ ] for any letter of the alphabet.

Most mathematicians choose x for [ ]
and choose . for multiply.

$$4.\ x - 2 = 10$$

$$x = 3$$



(a) Find the number which x is equal to.

$$3.x - 2 = 4$$

(b) Find the number which x is equal to.

$$5.x - 2 = 13$$

(c) Find the number which x is equal to.

$$4.x - 12 = 8$$

(d) Find the number which x is equal to.

$$2.x - 5 = 17$$

(e) Find the number which x is equal to.

$$6.x - 9 = 3$$

Check your answers! **How many did you get correct?**

Task Three. More Mystery Algebra Equations.

$$4.\ x - 2 = 10$$

$$x = 3$$

Because $4 . 3 - 2 = 10$

(a) Find the number which x is equal to.

$$4.x - 2 = 6$$

(b) Find the number which x is equal to.

$$2.x - 2 = 2$$

(c) Find the number which x is equal to.

$$7.x - 2 = 5$$

(d) Find the number which x is equal to.

$$5.x - 5 = 5$$

(e) Find the number which x is equal to.

$$7.x - 3 = 2$$

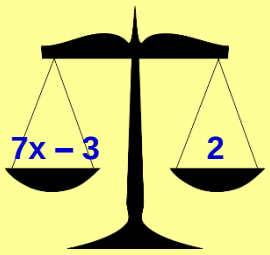
This one is difficult! It will need a method!! See Task Four…

Check your answers! How many did you get correct?

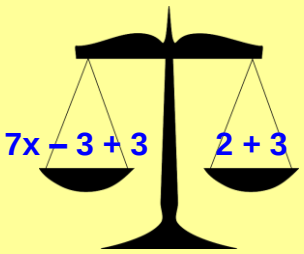
Task Four. **Difficult Mystery Algebra Equations.**

Solve for x.

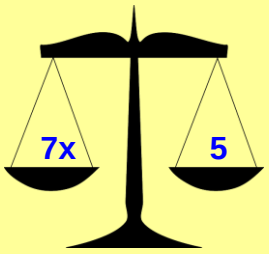
$$7x - 3 = 2$$



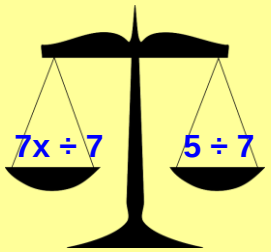
$$7x - 3 + 3 = 2 + 3$$



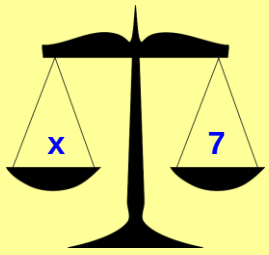
$$7x = 5$$



$$7x \div 7 = 5 \div 7$$



$$x = 5/7$$



“The aim is to get x by itself on the left-hand side.”

The solution is x = 5/7 because 7. 5/7 – 3 = 2

(a) **Find the number which x is equal to.**
Working must be shown!

$$8.x - 5 = 2$$

Notice!
All working must be put in.
5 lines of working!
Equal signs under each other.

$$8x - 3 = 2$$
$$8x - 3 + 3 = 2 + 3$$
$$8x = 5$$
$$8x/8 = 5/8$$
$$x = 5/8$$

(b) **Find the number which x is equal to.**
Working must be shown!

$$5.x - 2 = 2$$

(c) **Find the number which x is equal to.**
Working must be shown!

$$7.x - 2 = 4$$

(d) **Find the number which x is equal to.**
Working must be shown!

$$6.x - 2 = 3$$

(e) **Find the number which x is equal to.**
Working must be shown!

$$3.x - 1 = 1$$

Check your answers!
How many did you get correct?

Task Five. **More Difficult Mystery Mathematics Equations.**

(a) **Find the number which x is equal to.**
Working must be shown!

$$8.x - 5 = 4$$

Notice!
All working must be put in.
5 lines of working!
Equal signs under each other.

$$8x - 3 = 12$$
$$8x - 3 + 3 = 12 + 3$$
$$8x = 15$$
$$8x/8 = 15/8$$
$$x = 1\ 7/8$$

(b) **Find the number which x is equal to.**
Working must be shown!

$$5.x - 2 = 4$$

(c) **Find the number which x is equal to.**
Working must be shown!

$$7.x - 2 = 10$$

(d) **Find the number which x is equal to.**
Working must be shown!

$$6.x - 2 = 11$$

(e) **Find the number which x is equal to.**
Working must be shown.

$$3.x - 1 = 12$$

Check your answers!
How many did you get correct?

Task Six. Mixed Mystery Mathematics Equations.

(a) Find the number which x is equal to.

$$8.x - 8 = 8$$

Notice!
All working must be put in.
5 lines of working!
Equal signs under each other.

$$6x - 6 = 6$$
$$6x - 6 + 6 = 6 + 6$$
$$6x = 12$$
$$6x/6 = 12/6$$
$$x = 2$$

(b) Find the number which x is equal to.

$$2.x - 2 = 2$$

(c) Find the number which x is equal to.

$$7.x - 7 = 7$$

(d) Find the number which x is equal to.

$$x - 12 = 36$$

(e) Find the number which x is equal to.

$$3.x - 3 = 3$$

Check your answers!
How many did you get correct?

These equations need working to be shown. Setting out is essential !

Task Seven. Different Mystery Mathematics Equations.

(a) Find the number which x is equal to.

$$8.x + 4 = 7$$

Notice!
All working must be put in.
5 lines of working!
Equal signs under each other.

$$6x + 5 = 6$$
$$6x + 5 - 5 = 6 - 5$$
$$6x = 1$$
$$6x/6 = 1/6$$
$$x = 1/6$$

(b) Find the number which x is equal to.

$$2.x + 3 = 4$$

(c) Find the number which x is equal to.

$$7.x + 5 = 18$$

(d) Find the number which x is equal to.

$$x + 12 = 36$$

(e) Find the number which x is equal to.

$$3.x + 1 = 30$$

Check you answers!
How many did you get correct?

These equations need working to be shown. Setting out is essential !