

# Multiplication. Loops in algorithms.

1 **Check** the result of the equations that Foxy Tail solved.

$$568 - y = 78$$

$$y = 490$$

$$x - 218 = 368$$

$$x = 435$$

$$z - 96 = 723$$

$$z = 627$$

Check:



2 Compare:

$$28 - 5 \square 28 - (5 + 1)$$

$$28 + 5 \square 28 + (5 + 1)$$

$$28 - 5 \square 28 - (5 - 2)$$

$$28 + 5 \square 28 + (5 - 1)$$

$$28 - 5 \square 28 - (5 + a)$$

$$28 + 5 \square 28 + (5 + a)$$

$$28 - 5 \square 28 - (5 - b)$$

$$28 + 5 \square 28 + (5 - b)$$

3 Open up the parentheses:

$$10 + (2 + 8) =$$

$$74 - (15 + 5) =$$

$$10 + (10 + a) =$$

$$45 - (10 + h) =$$

$$28 + (15 - 5) =$$

$$40 - (15 - 5) =$$

$$23 + (b + 6) =$$

$$d - (16 - 4) =$$

4 A dress costs  $\$a$ , and a suit costs  $\$b$ . How much more expensive is a suit than a dress?

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A dress costs  $\$a$ , and a suit costs  $\$b$ . How much do the dress and the suit cost together?

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A dress costs  $\$a$ , which is  $\$c$  cheaper than a suit. How much does the suit cost?

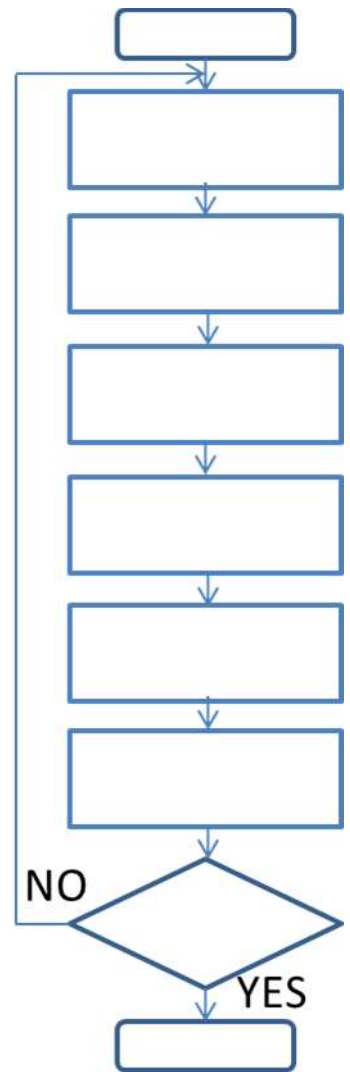
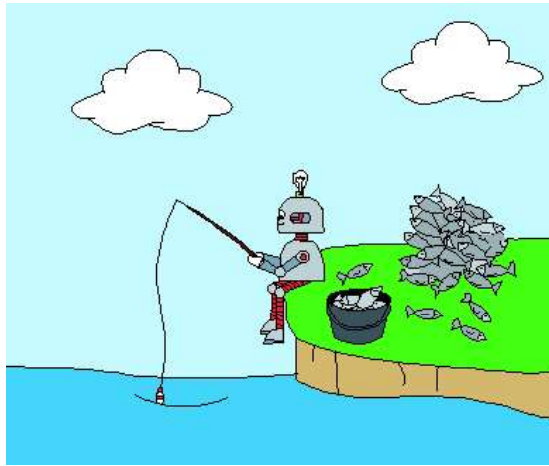
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5 Read the instruction that our robot Bob got from his friend Nick and figure out why Bob did not come back home from fishing. Fill the flow chart.

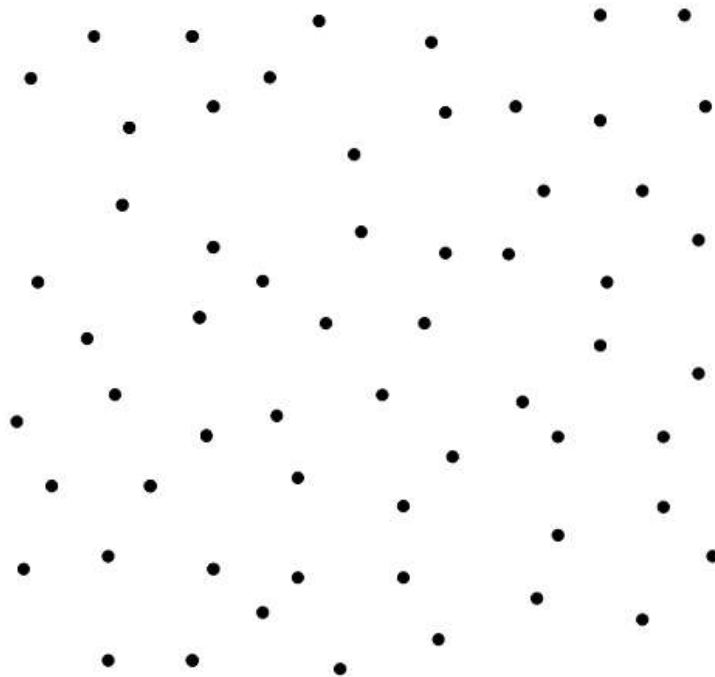
Nick's gave Bob a fishing rod, a bucket and a bite and tell him to go to the river. Nick gave Bob an instruction how to fishing:  
Put the bait on the hook, throw the hook into the water and wait until fish bites. Pull the fish out, take it off the hook, put into the bucket and repeat all over.

Nick was waiting for Bob at home but 2 days pass but Bob did not come back.....

Do you know what has happened?



6 Count points.



There are \_\_\_\_\_ points on the picture.

7 Now try to divide these points into groups of 5 before counting them.

How many groups of 5 did you count? \_\_\_\_\_

How we can count them now?

By adding \_\_\_\_\_

By skip counting \_\_\_\_\_

Does grouping make it easier to count points? \_\_\_\_\_

Should we always add or skip-count? \_\_\_\_\_

Multiplication is a mathematical operation where a number is added to itself a number of times. When we counting points by group we **multiply** them. To express multiplication we write  $5 \times \underline{\quad} = \underline{\quad}$

8 Calculate:

$$3 + 3 + 3 + 3 + 3 = \underline{\quad} \text{ therefore } 3 \times 5 = \underline{\quad}$$

$$7 + 7 + 7 + 7 = \underline{\quad} \text{ therefore } 7 \times \underline{\quad} = \underline{\quad}$$

$$4 + 4 + 4 + 4 + 4 = \underline{\quad} \text{ therefore } 4 \times \underline{\quad} = \underline{\quad}$$

$$8 + 8 + 8 = \underline{\quad} \text{ therefore } 8 \times \underline{\quad} = \underline{\quad}$$

9 Rewrite additions using multiplication:

$$4 + 4 + 4 + 4 + 4 + 4 = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{4 + 4 + \dots + 4}_{16 \text{ times}} = \underline{\quad} \times \underline{\quad}$$

$$a + a + a + a + a + a = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{a + a + \dots + a}_{12 \text{ times}} = \underline{\quad} \times \underline{\quad}$$

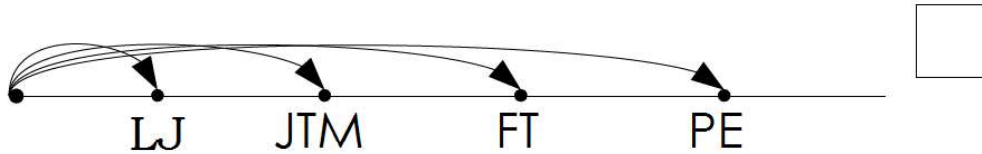
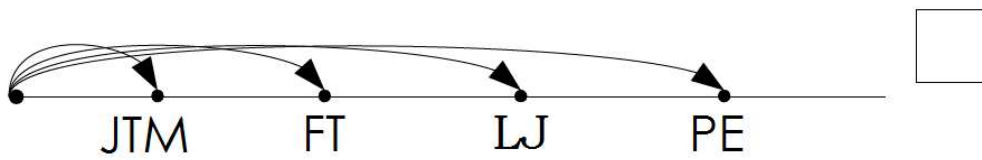
$$\underbrace{4 + 4 + 4 \dots + 4 + 4}_{b \text{ times}} = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{a + a + \dots + a}_{z \text{ times}} = \underline{\quad} \times \underline{\quad}$$

Can you rewrite this using multiplication:  $7+7+7+7+7+2+7+2 = \quad ?$

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Four brothers were throwing snowballs. Foxy Tail (FT) threw his snow ball further than Jack the Mouse (JTM) and Little Joe (LJ), but not as far as Pop Eye (PE) did. Mark the correct drawing with a checkmark and an incorrect drawing with X.



Does it any other possibility that would be correct according to the statement?



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a) What do the words FISH, DISH, DISK, TASK, and TALK have in common? Find a trait that would exclude the word TALK from the set.

b) What do the words TOGA, SAGA, ECHO, BOARD, and BOAT have in common? Find a trait that would exclude the word BOARD from the set.

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Which picture does not belong in the group? Why does it not belong?

