

Word problems. Algorithms. Reflection symmetry

1 This bird likes to eat fish. What is the name of this bird?

$\begin{array}{r} 302 \\ - 167 \\ \hline \end{array}$	$\begin{array}{r} 528 \\ + 74 \\ \hline \end{array}$	$\begin{array}{r} 613 \\ - 97 \\ \hline \end{array}$	$\begin{array}{r} 704 \\ - 637 \\ \hline \end{array}$	$\begin{array}{r} 641 \\ + 178 \\ \hline \end{array}$
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602	819	67	516	135

N H O R E

2 Write expressions corresponding to each word problem.

There are 3 marbles in a red bag and 5 marbles in a green bag. How many marbles are in both bags?

R _____ }
G _____ }

There are **w** marbles in a red bag and 5 marbles in a green bag. How many marbles are in both bags?

R _____ }
G _____ }

There are **w** marbles in a red bag and **m** marbles in a green bag. How many more marbles are in the red bag?

R _____ }
G _____ }

There are 12 marbles in a red bag and **m** marbles in a green bag. How many more marbles are in the red bag?

R _____ }
G _____ }

There are **w** marbles in a red bag. In the green bag, there are 5 marbles less than in the red bag. How many marbles are in both bags?

R _____ }
G _____ }

3

Little Joe picked 6 apples from the apple tree. Foxy Tail picked 9 apples from the apple tree.

Which questions can you ask for this problem?

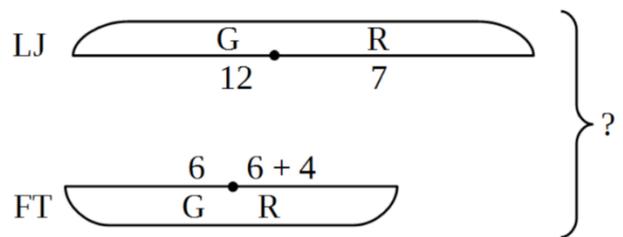
How many apples did _____

How many more apples did _____

4

Little Joe picked 12 green apples and 7 red ones. Foxy Tail picked 6 green apples and 4 more red apples than green.

How many apples did Little Joe and Foxy Tail pick altogether?



What else could you ask?

How many apples did _____

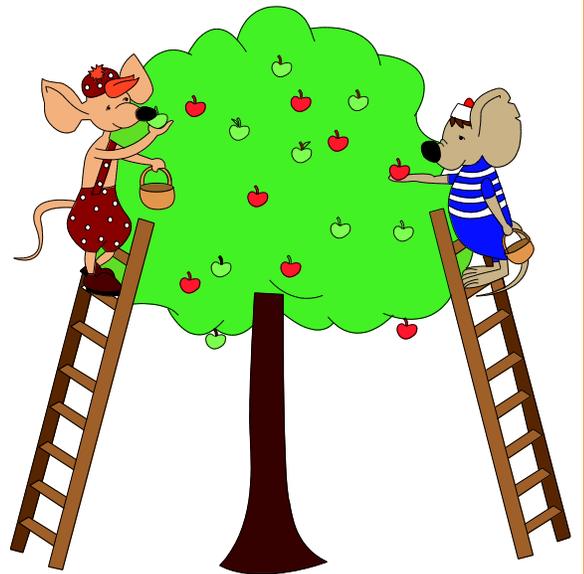
How many apples did _____

How many more _____

How many more _____

How many more _____

How many more _____



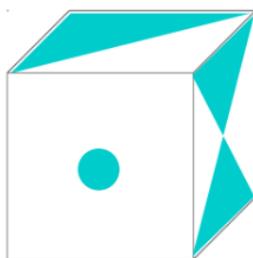
5

Draw the face of a cube that you **will not see** if you turn the cube

a) to the right

b) backward

c) forward



Algorithms and Programs

6 Write the order of operations in the expressions below.

$12 - 4 + 7$

$12 - (4 + 7)$

$(12 - 4) + 7$

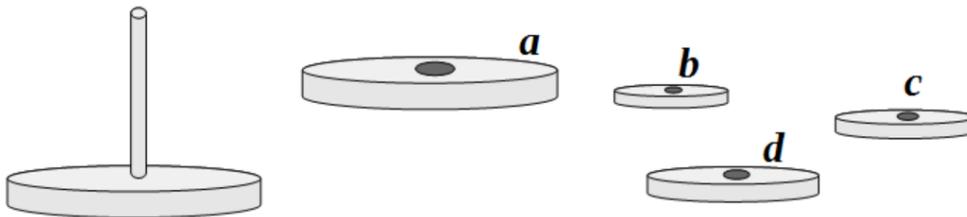
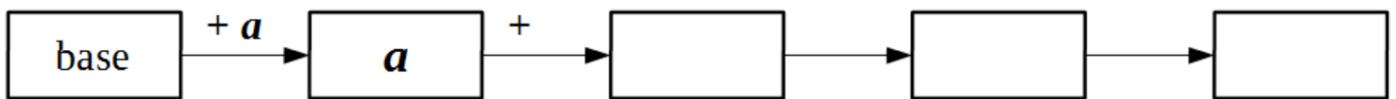
$19 - 3 + 7 - 4$

$19 - (3 + 7) - 4$

$19 - 3 + (7 - 4)$

By determining the order of operation, we are making a program or algorithm for evaluating the expression.

7 Write a program of putting up the pyramid from its parts



Many things could be made into algorithms, for example, recipes or trips. An algorithm is a list. It lists the steps you need to take to carry out a plan. It has to be in the correct order.

8 Make a "Get Ready for School" algorithm.

Which steps of the algorithm could be switched? _____

Which steps could not be switched?

What steps can be removed? _____

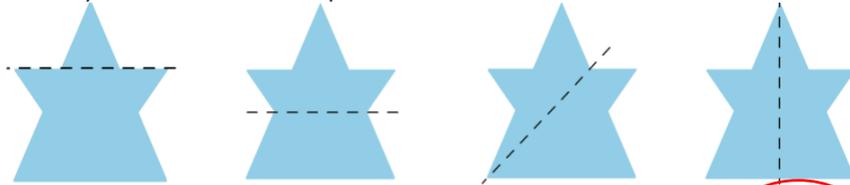
What other steps can be added?

- ___ Eat breakfast
- _1_ Wake up
- ___ Get dressed
- ___ Brush hair
- ___ Brush teeth
- ___ Prepare backpack
- ___ Make bed
- ___ Do morning exercises
- ___ Say "Goodbye"
- ___ Go to the school bus stop

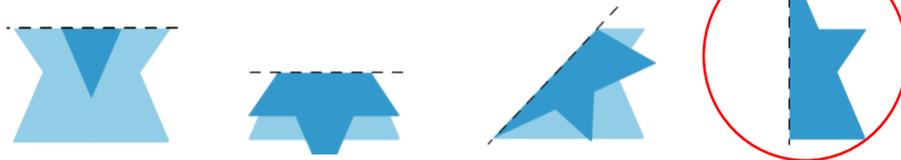
Symmetry. Line of symmetry. Reflection symmetry.

The simplest symmetry is Reflection Symmetry (sometimes called *Line Symmetry* or *Mirror Symmetry*). It is easy to see, because one half is a reflection of the other half.

What happens when you fold this shape? Choose a fold line to find out.



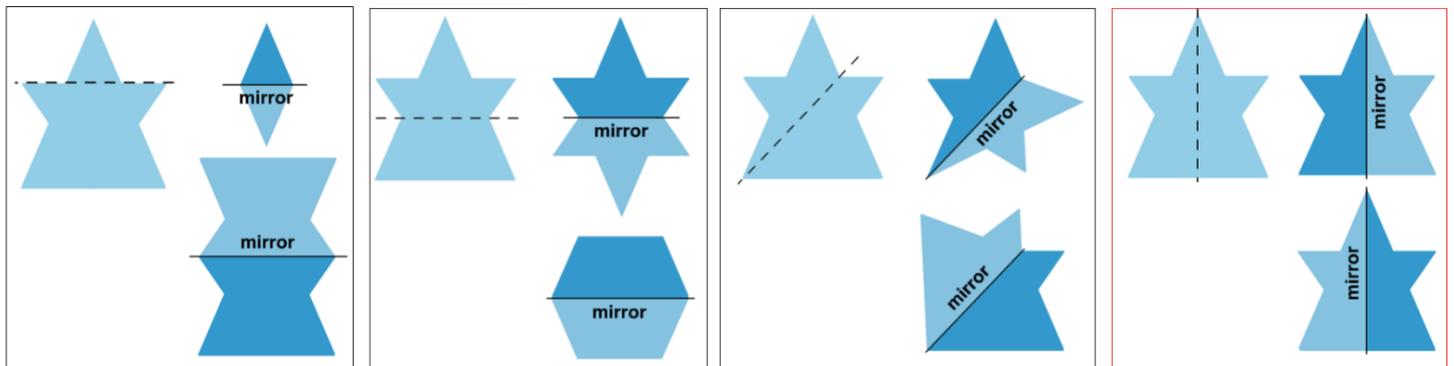
Fold across the chosen fold line:



When you fold a shape along a line of symmetry, one half fits exactly over the other.

If you put a mirror on this shape and looked at it from each side, what would you see?

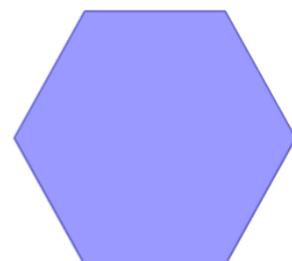
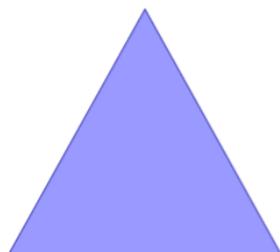
Choose a mirror line to find out.



When you put a mirror on a line of symmetry and look from either side, the shape looks like the original. So, this shape is **symmetrical**. It has **reflection symmetry**. It has **one** line of symmetry.

9

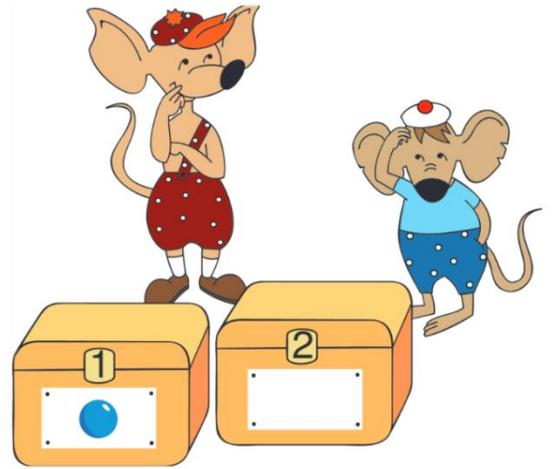
Some shapes have several lines of symmetry. How many lines of symmetry does each shape have?



10 There are two boxes and one blue ball. The ball is in one of the boxes. Can you tell where is the ball if

- a) both tags are correct? _____
- b) both tags are incorrect? _____

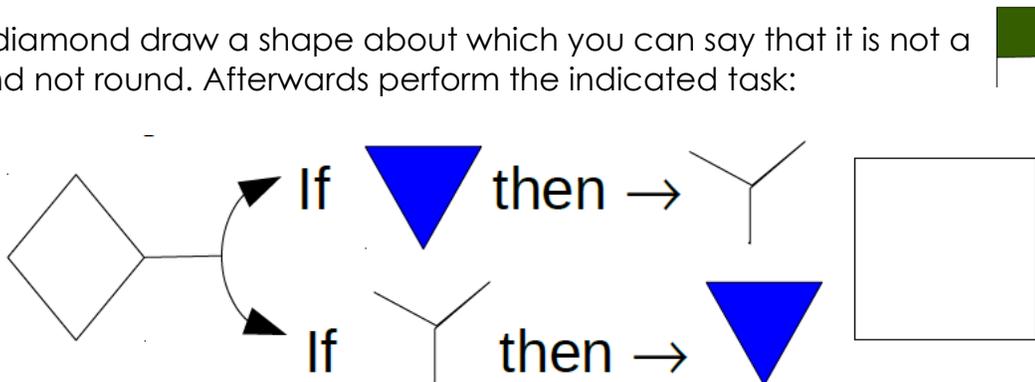
Can it be that one tag is incorrect and another is not? Why? _____



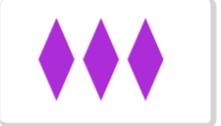
11 Take a look at those shapes:



Inside the diamond draw a shape about which you can say that it is not a not red, and not round. Afterwards perform the indicated task:



12 Complete the sets by adding the missing cards.

a   

b   

c   

- 1 
- 2 
- 3 
- 4 
- 5 