

## LESSON 2: Guess and Check

### Guess and Check

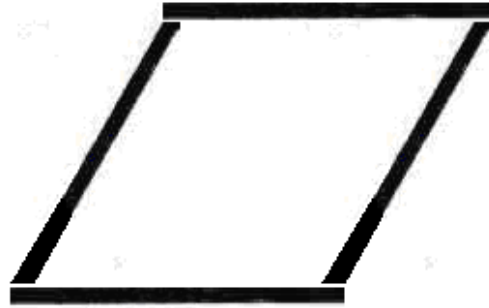
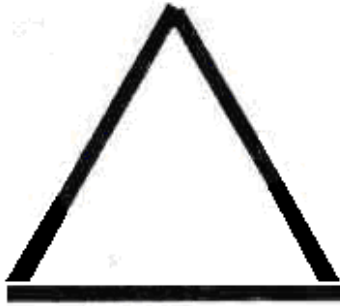
**Guess and Check** is used when the information given in the question cannot be used directly.

- The method involves drawing a table and the four operations.
- The table is filled in to see if the conditions can be met.

## GUIDED EXAMPLE 1

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Andy used 414 toothpicks to construct some rhombuses and triangles.  
He used 1 toothpick for each side of the rhombus or triangle constructed.  
He constructed 132 figures altogether.  
How many triangles and rhombuses did he construct?



### **GUIDED EXAMPLE 2**

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Ali was asked how many goats and chickens were there in a farm.  
He answered: "Among the animals, there are 630 eyes and 822 legs."  
How many of each kind of animals were there?

## **GUIDED EXAMPLE 3**

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There were a total of 100 spiders and chickens on a piece of land.  
The number of legs that all the spiders have is 150 more than  
the number of legs that all the chickens have.  
How many more chickens are there than spiders?  
(A chicken has 2 legs and a spider has 8 legs)

### **GUIDED EXAMPLE 4**

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A height survey was conducted among 60 pupils.  
The average height of the pupils is 151.25cm.  
Given that the average height of the boys and girls  
was 160 cm and 145 cm respectively,  
find the number of boys and the number of girls.

## **GUIDED EXAMPLE 5**

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There are 30 multiple choice questions in a contest.

5 marks are awarded for each correct answer.

3 marks are deducted for each incorrect answer.

No marks are awarded for questions left unanswered.

If a student scores 78 marks in this contest,

what is the greatest possible number of questions he answered correctly?

## **BUILD YOUR UNDERSTANDING!**

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1. A fruit seller bought 280 kg of grapes and peaches.  
Given that grapes cost \$2 per kg and peaches cost \$4 per kg.  
If he spent \$891 altogether, how many kilograms of each fruit did he buy?

2. There are 60 questions in a science quiz.  
5 marks are awarded for each question answered correctly.  
2 marks are deducted for each wrong answer.  
Assuming that Ricky attempts all the questions, what is the minimum number of questions he must answer correctly if he wants to score **at least** 200 marks?



3. The average weight of 50 patients at a clinic is 55.1 kg. The average weight of a male patient and a female patient is 65 kg and 50 kg respectively. How many males are there in the clinic?

4. There were 25 baskets of durians and dragonfruits.  
Each basket of dragonfruit weighed 13 kg  
while each basket of durians weighed 20 kg.  
The durians weighed 269 kg more than the dragonfruits.  
How many baskets of dragonfruits were there?

5. Annie has 351 coins of 20-cent coins, 50-cent coins and 10-cent coins.  
The total amount of all these coins is \$114.60.  
The number of 20-cent coins and 10-cent coins is the same.  
How many 50-cent coins does she have?

6. Ali bought 760 apples at \$0.30 each.  
He then threw away 86 rotten apples and arranged the rest into two baskets.  
The big apples were sold at \$0.60 each and the small apples were sold at \$0.40 each.  
He sold all the apples and earned a profit of \$129.60.  
How many big apples did he sell?