



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

- Archimedes is confused.  
A barrel full of sand weighs 40 kilograms and the same barrel filled with gold nuggets weighs 60 kilograms. If the gold weighs twice as much as the sand, how much would the empty barrel weigh?

.....

- A class of young students were riding past Pythagoras' window. As they rode past he counted 64 bike wheels. There are 25 students in the class. How many were on tricycles and how many were on bicycles?

.....

Use this table to help you guess and check:

Bikes:																			
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## Challenge: Zany Zoo

Galileo visited Zorba's Zany Zoo and came across a cage that held a strange mix of jungle animals and creatures. In this cage he counted 11 heads and 20 feet. He also noticed that there were twice as many jungle creatures with four feet as there were with two feet.

How many creatures of each kind were in the cage?

Hint: Could there be other creatures in the cage?



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- Archimedes is confused.  
A barrel full of sand weighs 40 kilograms and the same barrel filled with gold nuggets weighs 60 kilograms. If the gold weighs twice as much as the sand, how much would the empty barrel weigh?

**20 kilograms**

- A class of young students were riding past Pythagoras' window. As they rode past he counted 64 bike wheels. There are 25 students in the class. How many were on tricycles and how many were on bicycles?

**14 on tricycles, 11 on bicycles**

Use this table to help you guess and check:

Bikes:																			
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### **Challenge: Zany Zoo**

Galileo visited Zorba's Zany Zoo and came across a cage that held a strange mix of jungle animals and creatures. In this cage he counted 11 heads and 20 feet. He also noticed that there were twice as many jungle creatures with four feet as there were with two feet.

How many creatures of each kind were in the cage?  
Hint: Could there be other creatures in the cage?

**There are 4 four footed animals, 2 two footed animals and 5 snakes!**