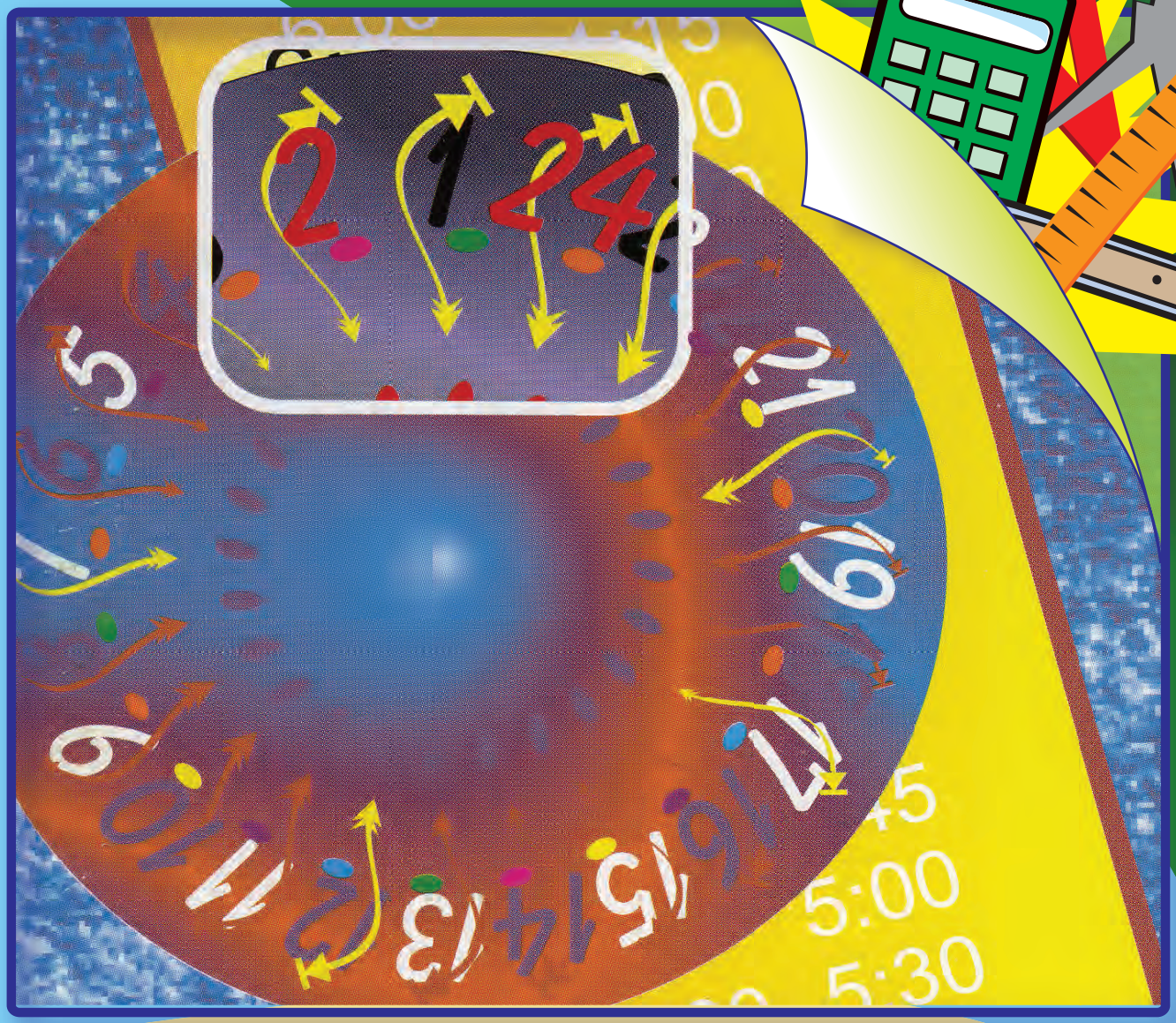
Mathematics

Activity Book 3

Everyday Math for the Real World

Teacher Edition

GRADES 4-5



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Name: _____

Check These Out!

1. 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?

   .....

2. 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?

   .....

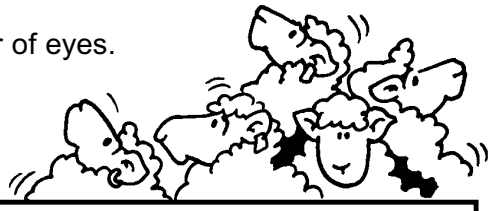
Use this table to help you guess and check:

Bikes:												
Trikes:												
Total:												

3. At Pythagoras' farm there is a paddock containing both peacocks and sheep. You counted 30 eyes and 44 feet. Use the table below to help you determine how many of each are in the paddock.

Peacocks:												
Sheep:												
Total Eyes:												
Total Feet:												

Hint: You know that every animal has a certain number of eyes.



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?

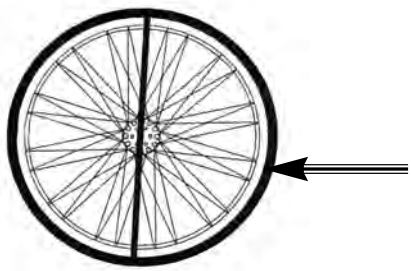
Name: _____

Life in the Wheel World

Pythagoras has been cycling around the lake. His bike is fairly old and one brake pad has worn away on the front wheel. A certain part of the wheel always touches the brake pad making a short grinding noise. It only does this once every revolution.

Pythagoras has been meaning to buy an odometer for his bike so he can measure the distance around the lake. However he has decided to use his brain instead. He knows that he has 48 cm diameter tires on his bike and thinks he can work out the circumference. He has placed the wheel so that it will grind immediately and is going to count the noises he hears.

Remember: Circumference of a circle = pi (π) x diameter (D). C = π x D
π is approximately equal to 3.14



D = 48 cm

Pythagoras counted 250 grinding noises when he rode once around the lake.

1. Approximately how far in meters is the distance around the lake? .....

How many grinding noises should Pythagoras expect to hear if he rides:

2. Three times around the lake? .....
3. Five times around the lake? .....
4. Exactly half way around the lake? .....
5. If he rides for exactly four and a half kilometers? .....
6. If he rides at twice the speed around the lake once? .....

Challenge:

A tree doubled its height each year until it reached its maximum height of 9.6 meters. It took ten years to reach this height. How many years did it take for the tree to reach half its maximum height?

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