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Intended Grade Level: 9th grade Mathematics

Timeframe: 45 minutes

Subject: Mathematics

Topic: Ratios and proportions

Purpose: These lessons are intended to provide problem solving and skill building to enhance math curriculum. It is the intention that these curriculum ideas would be used at the time that other disciplines would be “Teaching Turkey.”

TUSD and Arizona Core Objectives:

Patterns, Algebra, and Functions:

PM 106: Solve problems using ratios, proportions and percents.

Data Analysis and Probability:

PM 52: Express the idea of approximation in measurement with appropriate language.

Geometry:

PM 143: Calculate perimeter and area of various geometric shapes.

PM 151: Select and use appropriate tools for measurement and construction of geometric figures.

Objective:

- 1) Students will be able to find actual dimensions using a given scale. Students will be able to use map scales to estimate distances.
- 2) Students will use proportions to solve exchange rate problems given a real-world situation.

- 3) Students will calculate perimeter and area so that they can solve problems given a real world situation.

Closure Activities:

- 1) The important thing about: _____

Students write a paragraph length summary-

The first and last sentence contain the same idea; the center includes related and/or supporting details.

EXAMPLE:

The important thing about a variable is it always takes the place of a number.

A variable always hides an unknown number.

A variable is always a letter.

The important thing about a variable is it always takes the place of a number.

- 2) Students complete T-Chart.

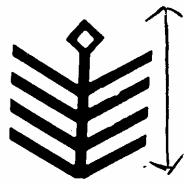
What I think I know about Turkey

What I would like to know about Turkey

Name _____
Period _____ DATE _____

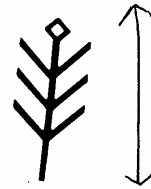
Scale Drawings

Use the given scales to find the actual size of Turkish symbols below.



Scale of 1:4

ACTUAL SIZE _____

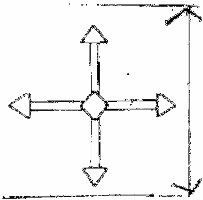


Scale of 1:2

ACTUAL SIZE _____

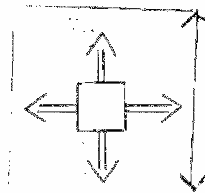
THE EAR OF WHEAT :

As a seed falling on the ground produces hundreds of new seeds it symbolises the reancarnation and fruitfulness.⁷⁶ In general the women weaving this motive hope to receive a good harvest and that fertility shall be at their homes.



Scale of 1:10

ACTUAL SIZE _____



Scale of 1:8

ACTUAL SIZE _____

THE DIRECTIONS :

The east, the west, the south and the north; the four directions symbolise the four parts of the universe and the winds.

These symbols are often depicted in Turkish carpets and kilims.

Name

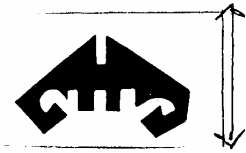
Period

DATE

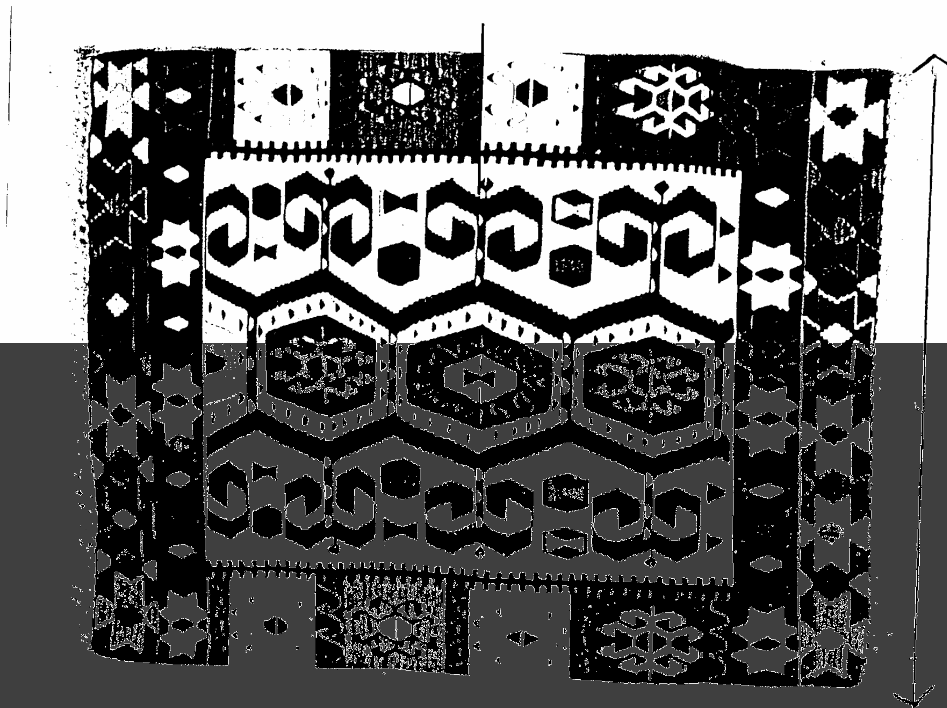
More Scale Drawings



Scale of 1:5
ACTUAL SIZE



Scale of 1:2
ACTUAL SIZE



Scale of 1:12
ACTUAL SIZE

THE HORN OF RAM :

It symbolises the power, strength, health and happiness.⁷⁰ Kilims covered only with ramhorn motives are aiming to symbolising the men rather than the women world. The sideways spiral view of the horn of ram is symbolising the path followed by the soul during its journey to the eternity, and the eternity itself.⁷¹ And as this motive is also representing the animals sacrificed, it also symbolises that the good work done will last forever.

NAME _____

Period _____ Date _____

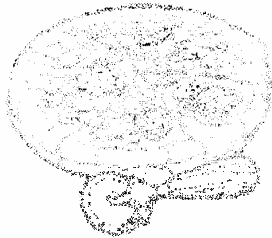
Exchange Rates

Today's Exchange Rates (From Internet)

One U.S. Dollar \$1.00 = _____ Lira

One Turkish Lira 1.00 = _____ U.S. Dollars

- 1) If a cheese pizza costs \$12.99 in the U.S., how much would a pizza cost in Istanbul? _____

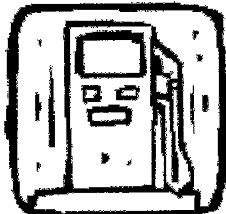


- 2) If figs cost 3.9 Lira per pound in Ankara, how much would they cost in Tucson? _____

- 3) If gas costs 2 Lira per liter in Turkey, how much would gas cost:

a) per liter in U.S. Dollars _____

b) Per gallon in U.S. Dollars (**Hint: 1 gallon is about 3.8 liters)



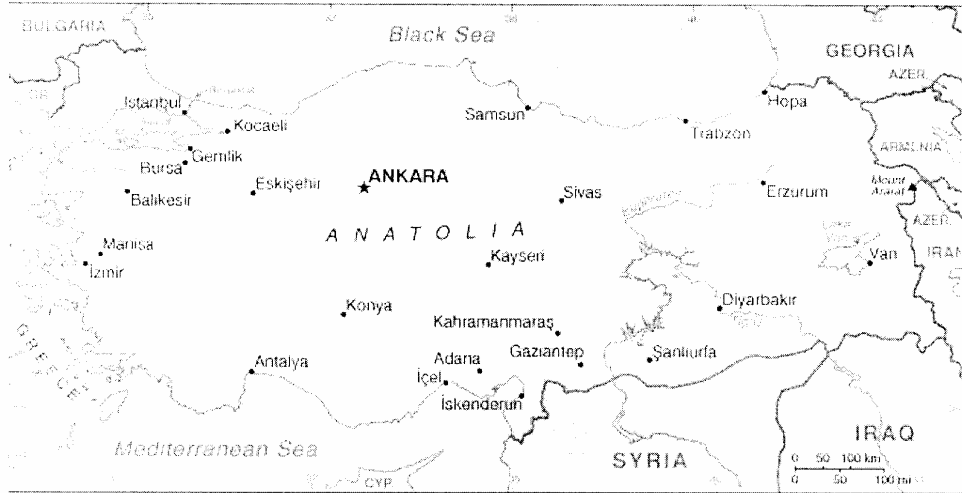
4) You bought your friend a present from Turkey; it was a pillow woven from wool and silk. The price of the pillow was 100 Lira. How would you explain to her the difference between the American and Turkish money systems?

5) American citizens must have a Visa to enter Turkey. A single-entry tourist Visa can be obtained for \$20.00. How much would that be in Turkish Lira?

6) A taxi ride from ATATURK International Airport in Istanbul to Sultanahmet (Istanbul's tourist center) is about \$15.00'. How many Turkish Lira would it cost to take a taxi one way upon arrival?

7) The cost in US dollars for traditional Turkish food at a courtyard restaurant are as follows: Vegetables cooked in olive oil (\$8, stuffed vine leaves in casserole (\$9.50) and mixed grill (\$25) or begendi kebabs of crunchy lamb on a bed of mashed eggplant for (\$11.00). Select at least 2 of these dishes. Find the cost of your meal in Lira. Tax is included in these prices but calculate a 10% tip for your total cost. _____

8) A Turkish bath costs about 32 Turkish lira. How much would that cost in US dollars?



Name _____

Period _____ Date _____

Reading Maps of Turkey

- 1) The scale of this map is _____ inches = _____ miles
_____ cm = _____ miles
- 2) Use the scale of your map and answer the following questions. Measure using cm.

The approximate distance in miles from:

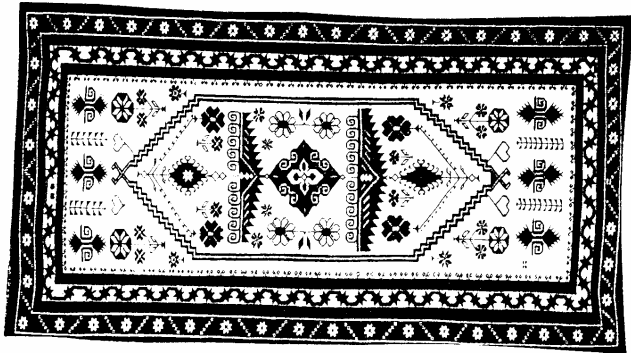
Ankara to Istanbul _____

Istanbul to Izmir _____

- 3) What sea borders Turkey on the north? _____
What sea borders Turkey on the south? _____
Name another sea that borders Istanbul? _____
- 4) What countries borders Turkey on the east? _____
- 5) What countries border Turkey on the west? _____
- 6) Measure the length and the width of the map of Turkey (in cm)
Length = _____ Width = _____
- 7) Use the scale of the map and your answer from problem number 6 to approximate the area of Turkey in square miles.

Name _____
Period _____ DATE _____

Use your ruler to determine each perimeter and area in centimeters.

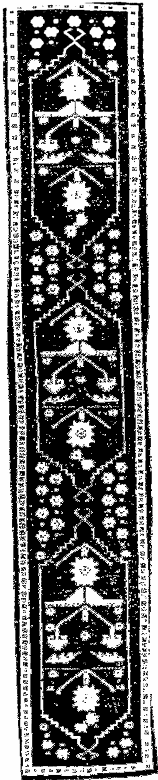


prayer rugs

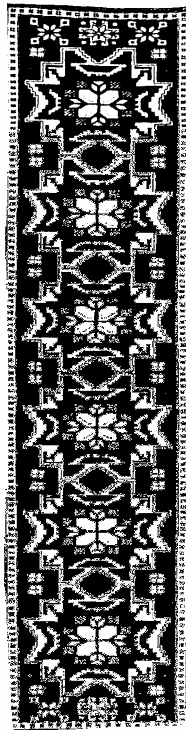
Perimeter _____
Area _____



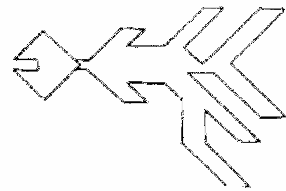
Perimeter _____
Area _____



Perimeter _____
Area _____



Perimeter _____
Area _____



Perimeter _____

Name _____

Period _____ Date _____

Area, Perimeter, and Ratio's

- 1) Determine the amount of carpet needed in sq feet for a living room that is 23 ft. x 15 ft. Carpet is sold in square yards. Convert your answer to sq yards. Determine the cost of the carpet if it costs 21.95 per sq. yard. Explain how you figured out what size carpet is needed.

- 2) What is the difference between perimeter and area?
- 3) Give an example of where one would want to know the perimeter of something.
- 4) Give an example of where one would want to know the area of something?
- 5) On a map $\frac{1}{4}$ " represents 11 miles. What distance is represented by 16 inches?

Inches: $\frac{1}{4}$?

Miles: 11 ?

What is the pattern? _____