# Kite Building

A kite can be built from two wooden dowels tied together, a large sheet of paper cut to size, and a string that forms a frame around the outside of the kite that the paper is attached to. The original instructions for building a kite show a kite with the dimensions in the figures below.

X

Y

Z

A

B

C

D

E

XY = 90 cm

YZ = 120 cm

AB = 90 cm

CD = 84 cm

AE = 15 cm

EB = 75 cm

Find the following:

AD = \_\_\_\_\_\_\_\_\_\_\_ DB = \_\_\_\_\_\_\_\_\_\_\_ the length of the string around the outside of the kite \_\_\_\_\_\_\_\_\_\_\_

## Smaller Kite

If the longest wooden dowels you can get are 72 cm, you will make a smaller kite. If the kite you make is similar to the original, calculate the following.

F

G

H

I

K

L

M

What is the ratio of the new kite to the original kite? \_\_\_\_\_\_\_\_\_\_\_

J

What is the ratio of the original to the new? \_\_\_\_\_\_\_\_\_\_\_

Find the dimensions of the largest kite you can make with 72 cm dowels.

FG = \_\_\_\_\_\_\_\_\_\_\_ HI = \_\_\_\_\_\_\_\_\_\_\_ FJ = \_\_\_\_\_\_\_\_\_\_\_ JG = \_\_\_\_\_\_\_\_\_\_\_

FI = \_\_\_\_\_\_\_\_\_\_\_ IG = \_\_\_\_\_\_\_\_\_\_\_ KL = \_\_\_\_\_\_\_\_\_\_\_ LM = \_\_\_\_\_\_\_\_\_\_\_

What is the length of the string that goes around the outside of the kite? \_\_\_\_\_\_\_\_\_\_\_

## Larger Kite

N

O

P

Q

R

T

U

S

After trying another store you find dowels that are 120 cm. If you make a larger kite that is similar to the original, find the following:

What is the ratio of the new kite to the original? \_\_\_\_\_\_\_\_\_\_\_

What is the ratio of the original to the new? \_\_\_\_\_\_\_\_\_\_\_

Find the dimensions of the largest kite you can make from these dowels.

NO = \_\_\_\_\_\_\_\_\_\_\_ PQ = \_\_\_\_\_\_\_\_\_\_\_ NR = \_\_\_\_\_\_\_\_\_\_\_ RO = \_\_\_\_\_\_\_\_\_\_\_

NQ = \_\_\_\_\_\_\_\_\_\_\_ QO = \_\_\_\_\_\_\_\_\_\_\_ ST = \_\_\_\_\_\_\_\_\_\_\_ TU = \_\_\_\_\_\_\_\_\_\_\_

The length of the string around the frame = \_\_\_\_\_\_\_\_\_\_\_