Name _____ Date _____

Extra Assessment Tasks: Length

PROBLEM 11

Show student two straws of the same length but different colors.
Place them next to each other vertically and ask,

"Which straw is longer or are they the same length? Why?"

Then place the straws in a T and ask,

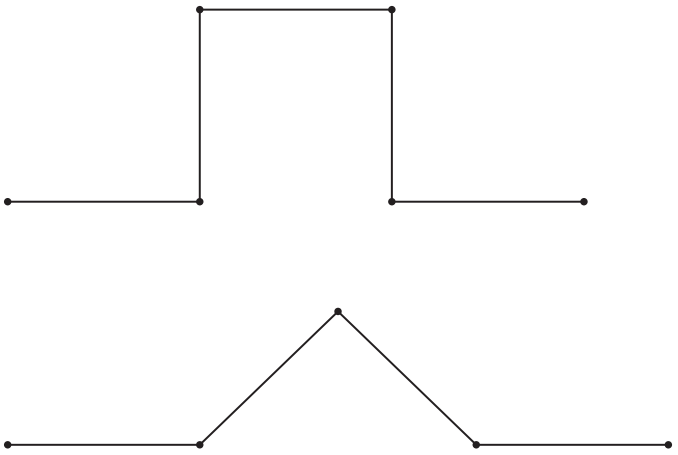
"Which straw is longer or are they the same length? Why?"

Name _____ Date _____

PROBLEM 12

Make both configurations below with inch rods (all rods are the same length and color), and ask the student,

"If an ant had to crawl along these paths, which path would be longer, or would they be the same? Why?"



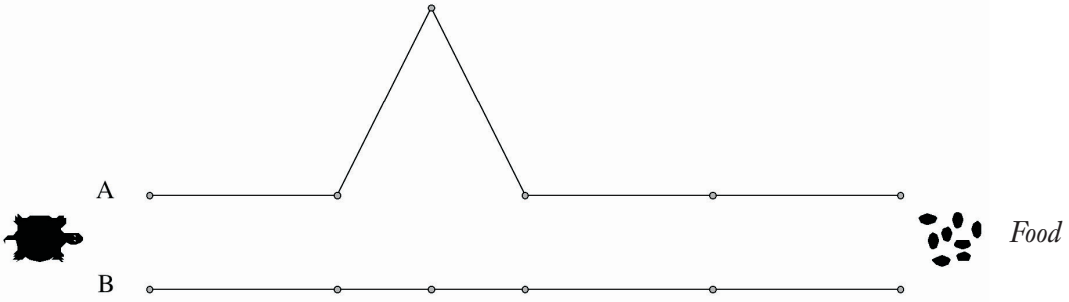
Name _____ Date _____

PROBLEM 13

PART A. Tony the Turtle has to walk on one of these paths to get his food.

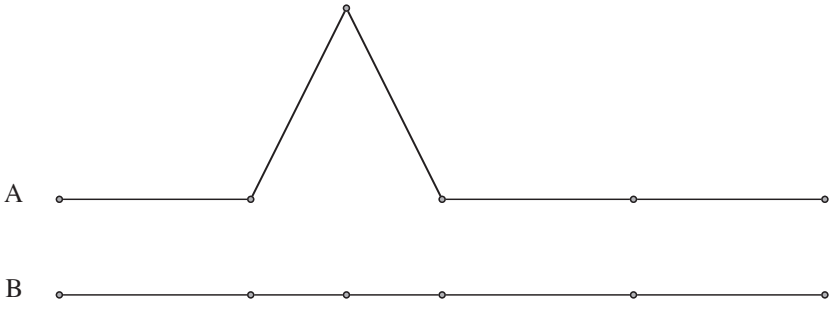
He wants to take the shortest path.

Which path is shorter, or are they the same length? How do you know?



PART B. Pretend these are strings with beads on them.

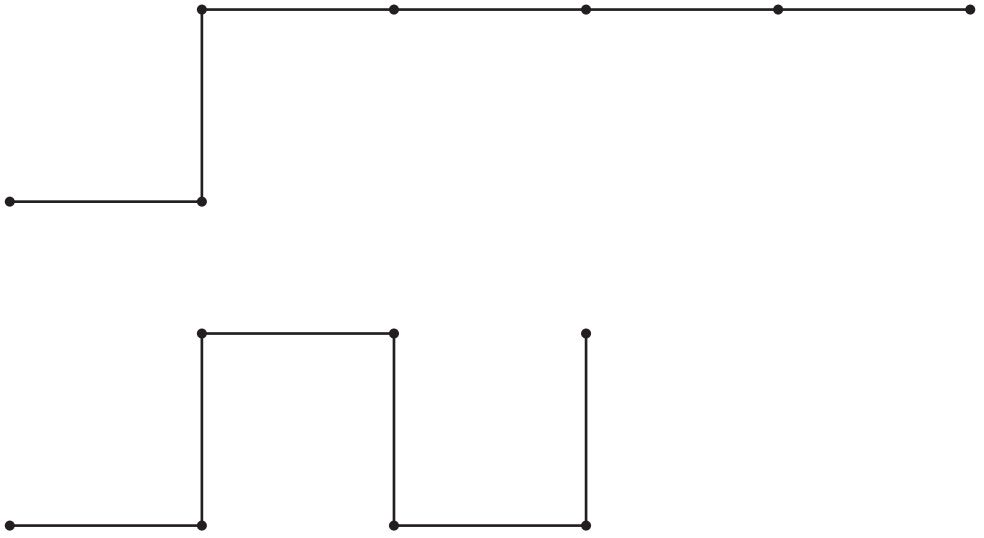
Which string is shorter, or are they the same length? How do you know?



Name _____ Date _____

PROBLEM 14

PART A. Pretend these are wires or string. Which wire is longer, or are they the same length? How do you know?



[After student answers the first question.]

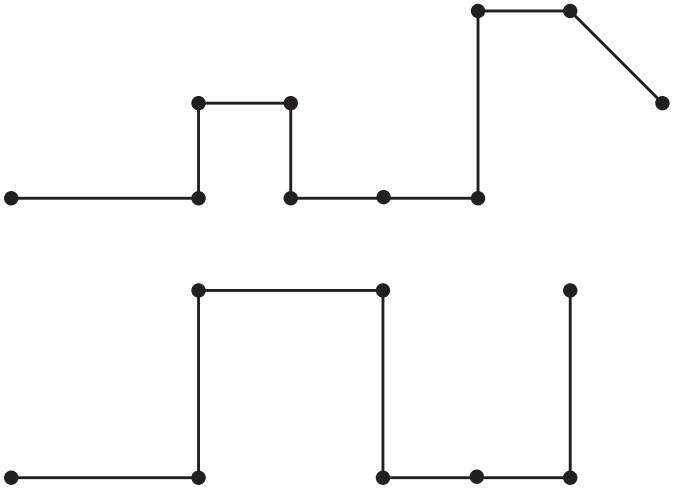
PART B. Suppose I pull the wires so they are straight.

Which wire would be longer, or would they be the same? How do you know?

Name _____ Date _____

PROBLEM 15

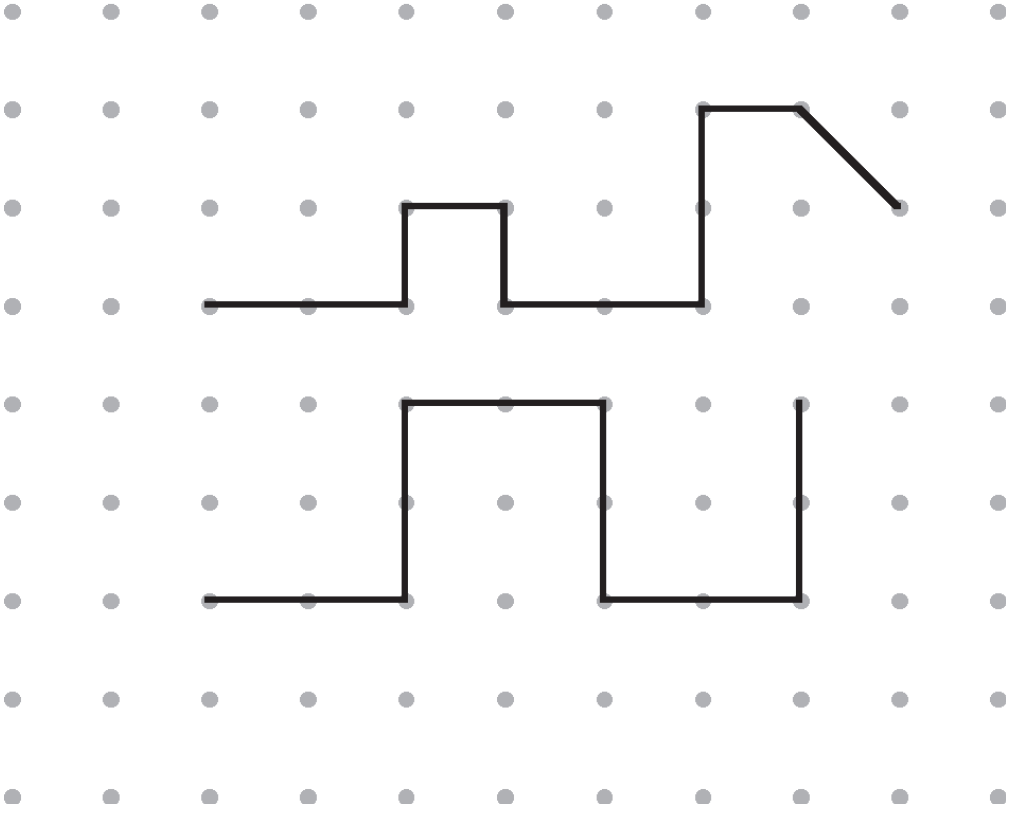
Which path is longer for an ant to crawl on, or are the paths the same length? Why?



Name _____ Date _____

PROBLEM 16

Which wire is longer, or are they the same length? Why?



Name _____ Date _____

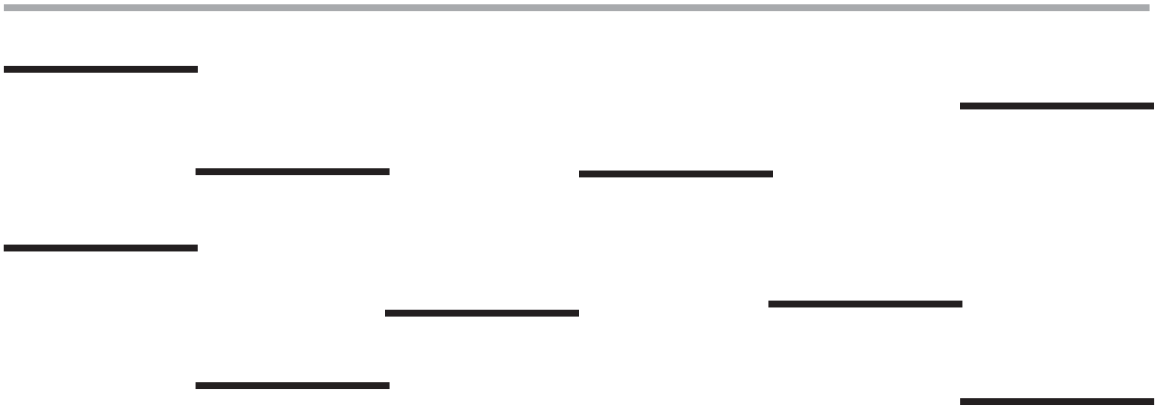
PROBLEM 17

How many black rods does it take to make a line segment as long as the gray rod? Explain your thinking.

Name _____ Date _____

PROBLEM 18

If you place the rods end-to-end, how many black rods does it take to make a line segment as long as the gray rod?



Name _____ Date _____

PROBLEM 19

How many black rods does it take to make a line segment as long as the gray rod?

Name _____ Date _____

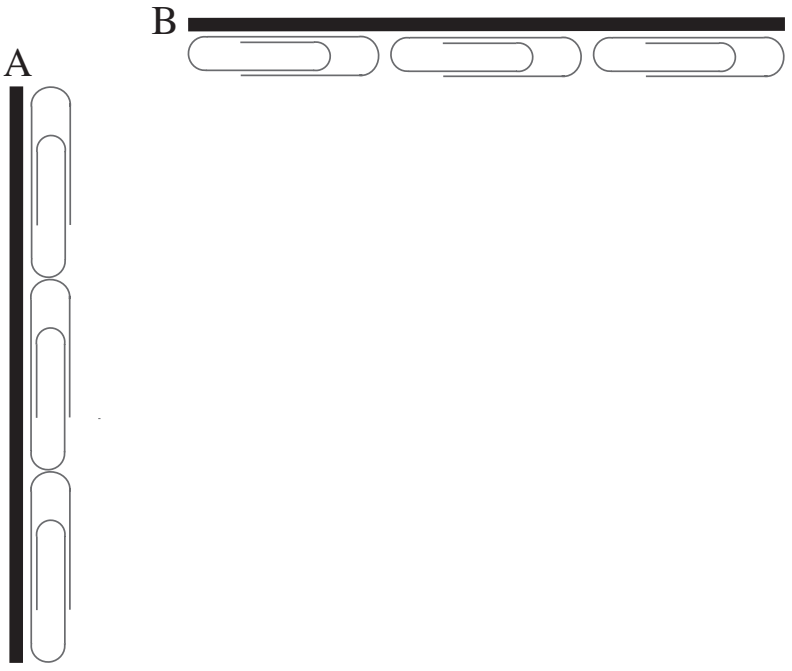
PROBLEM 20

Which black stick is longer, or are they the same length? All the paper clips are the same length. (Do not use a ruler.) Circle your answer and explain how you got it.

Stick A is longer.

Stick B is longer.

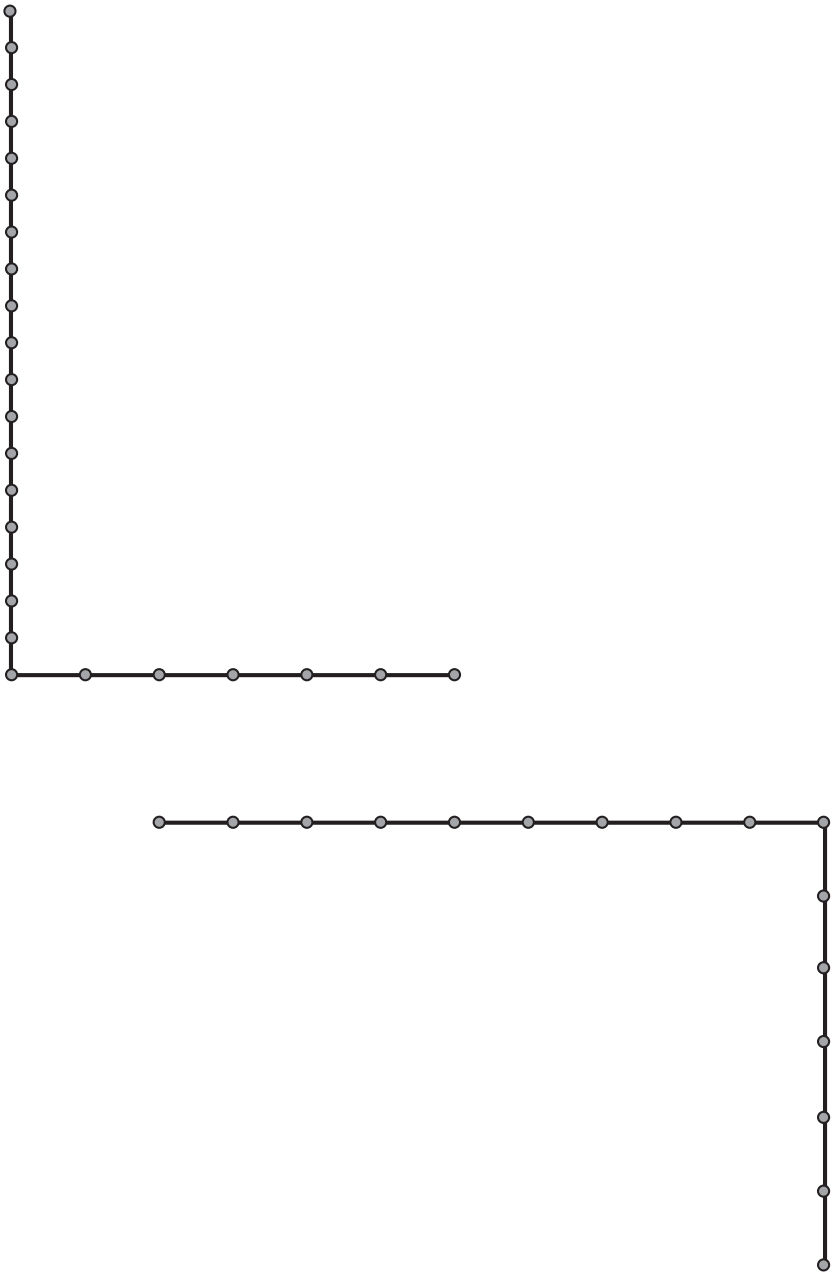
Stick A is the SAME length as Stick B.



Name _____ Date _____

PROBLEM 21

Which figure is longer? Or are the two figures the same length?

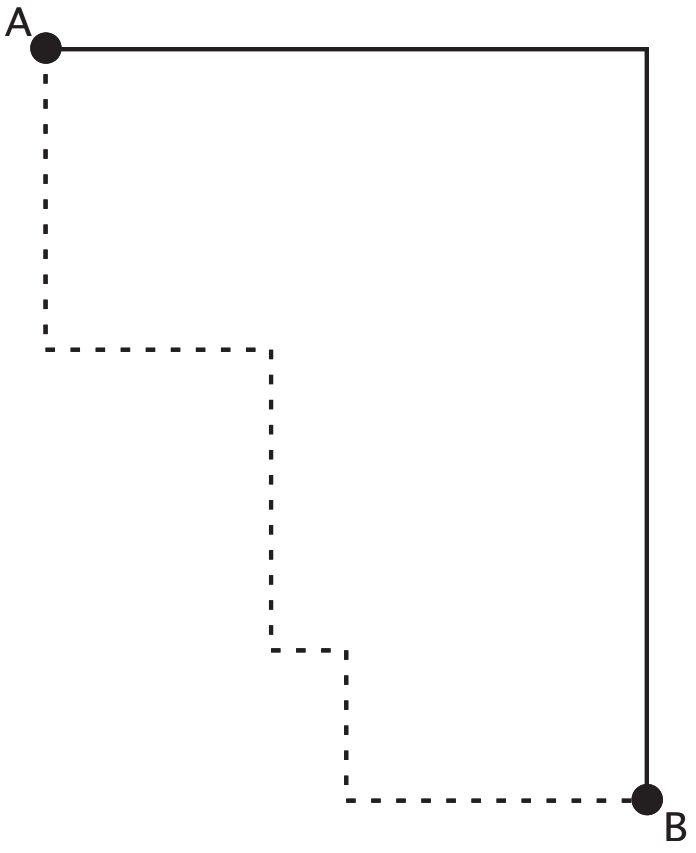


Can counting anything help you prove your answer is correct?

Name _____ Date _____

PROBLEM 22

The picture shows two different ways to get from Point A to Point B, a dotted path and a solid path. Which path is longer, or are they the same?

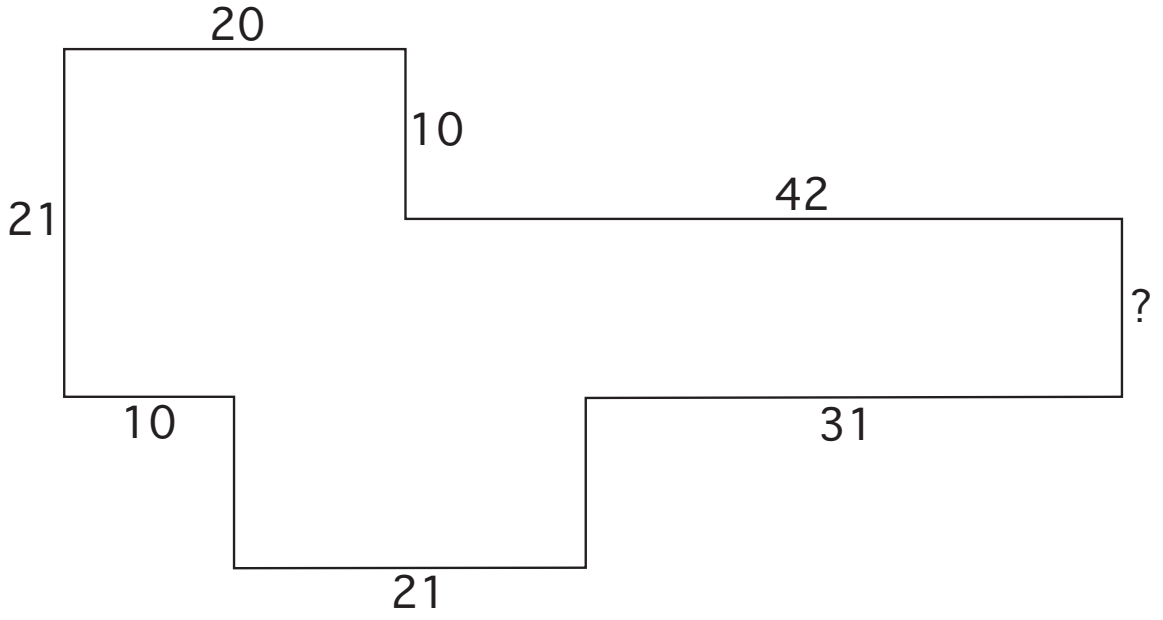


Name _____ Date _____

PROBLEM 23

The lengths of some of the sides of this shape are shown.

Find the length of the side with the question mark.



Name _____ Date _____

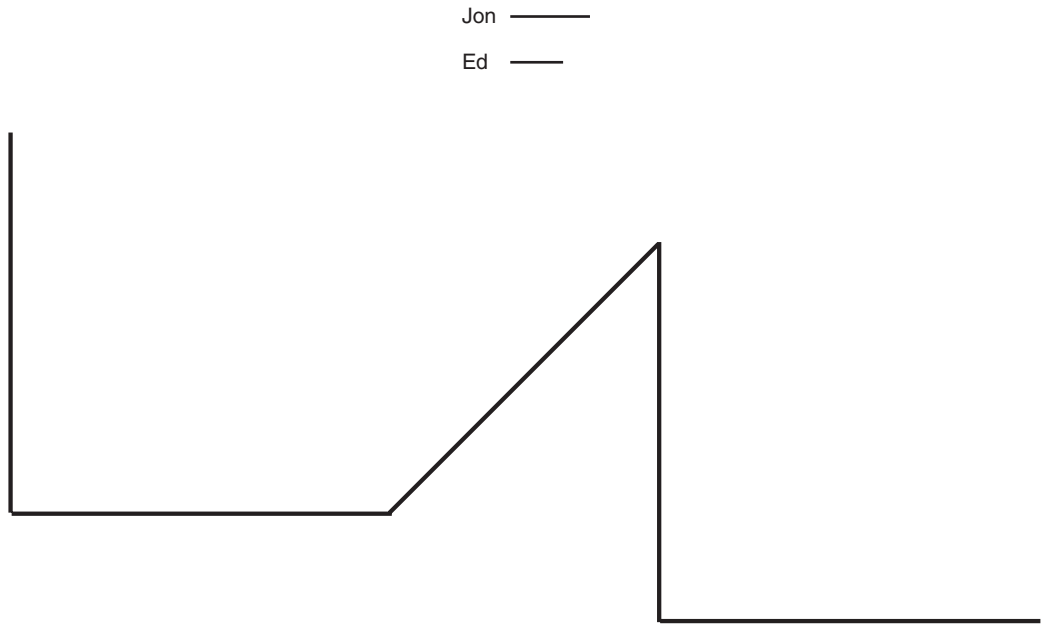
PROBLEM 24

Jon and Ed are trying to find out how long this path is.

Jon measured the path with this unit. [Point to Jon's unit.]

Ed measured the path with this unit. [Point to Ed's unit.]

Who got the bigger number?

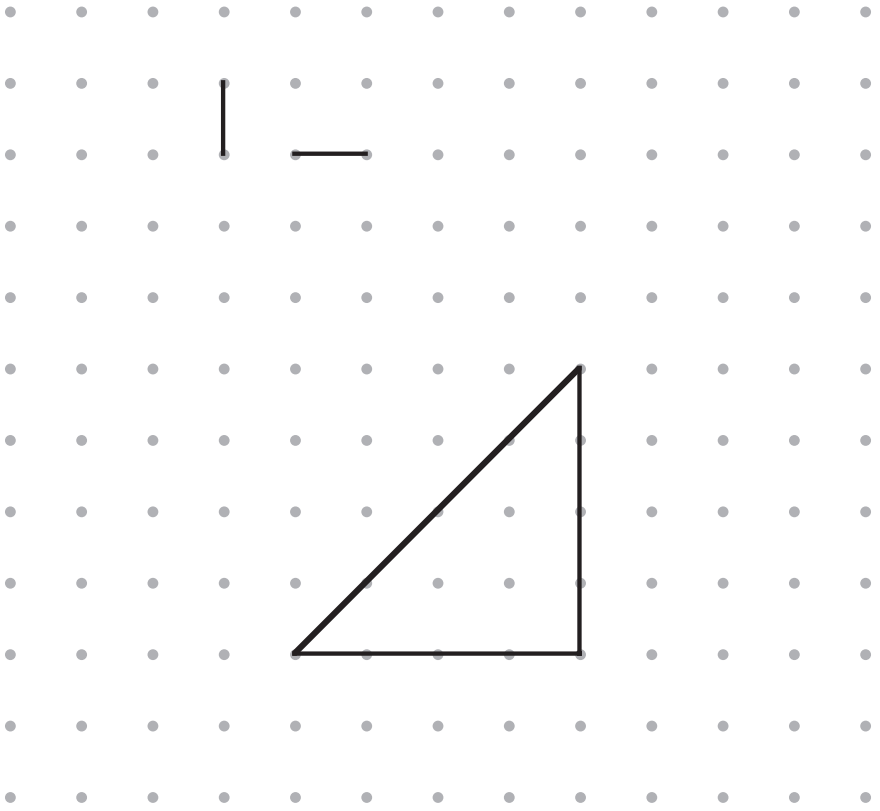


Name _____ Date _____

PROBLEM 25

This segment is one unit long and this segment is one unit long [pointing].

How many units long is it to trace all the way around the triangle [trace triangle]?



Name _____ Date _____

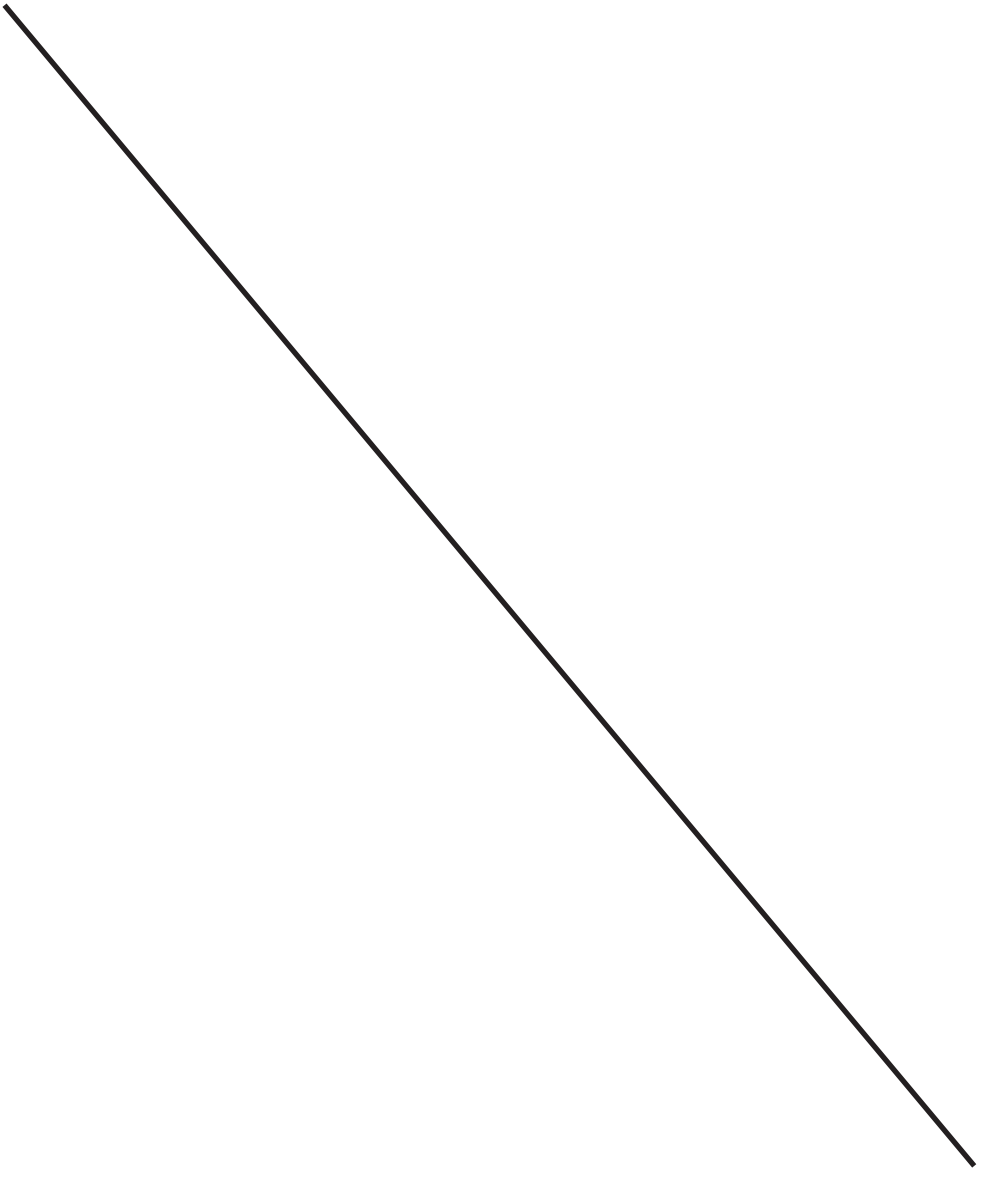
PROBLEM 26

Get four 5-centimeter long rods. This segment is one centimeter long. ▬

This rod is 5 centimeters long. [Show rod.]

The line below is 4 rods long. [Show 4 rods on the line segment, then remove.]

How many centimeters long is the line? [If no answer, give the student one rod and ask: Here is a rod, will it help?]

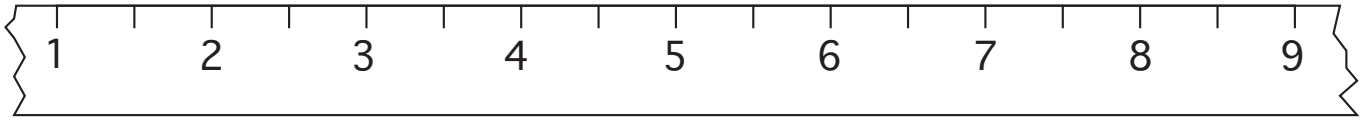


Name _____ Date _____

PROBLEM 27

Give the student a 5-by-7 cm rectangular card.

Use this ruler to measure the distance around this rectangle.



Name _____ Date _____

PROBLEM 28

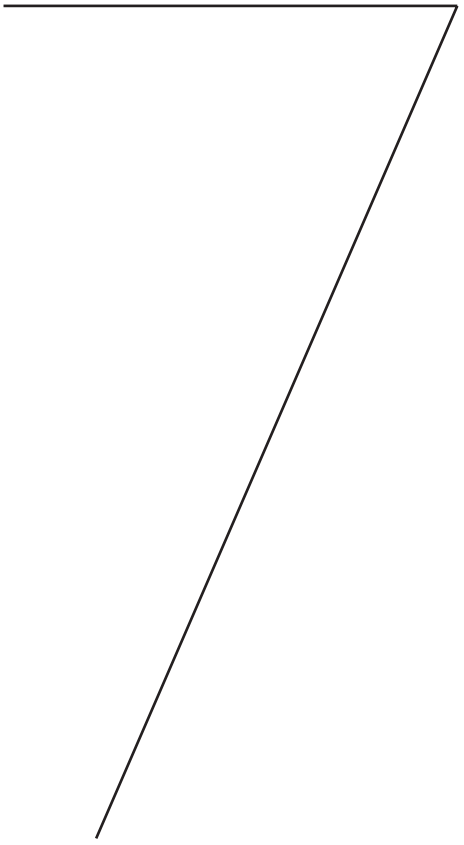
The tires on a toy car are 6 inches around [point around a tire]. If the car is pushed forward so that the tires rotate exactly 3 full turns, how far forward will the car move?

Name _____ Date _____

PROBLEM 29

Give the student a ruler marked off in whole centimeters.

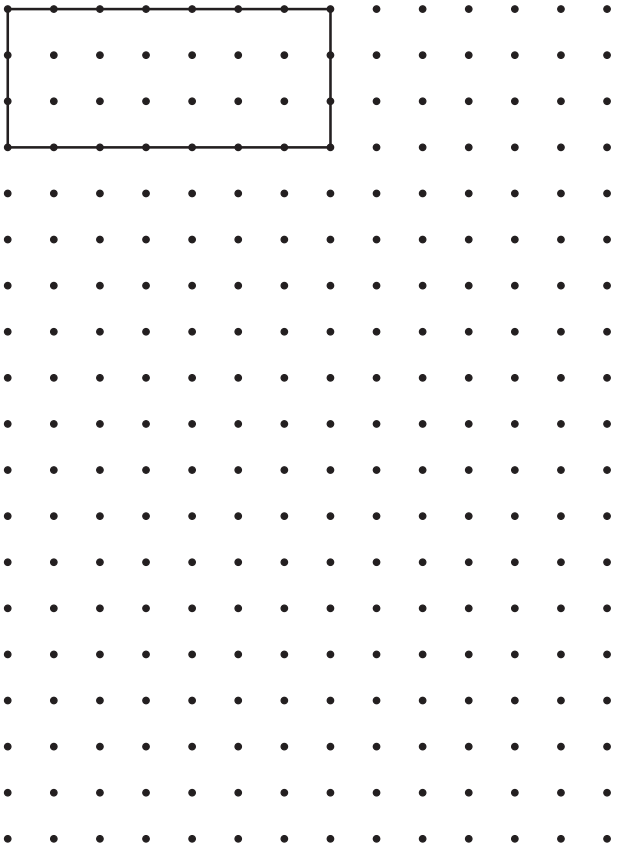
Ask the student to use the ruler to measure the total length of this path.



Name _____ Date _____

PROBLEM 30

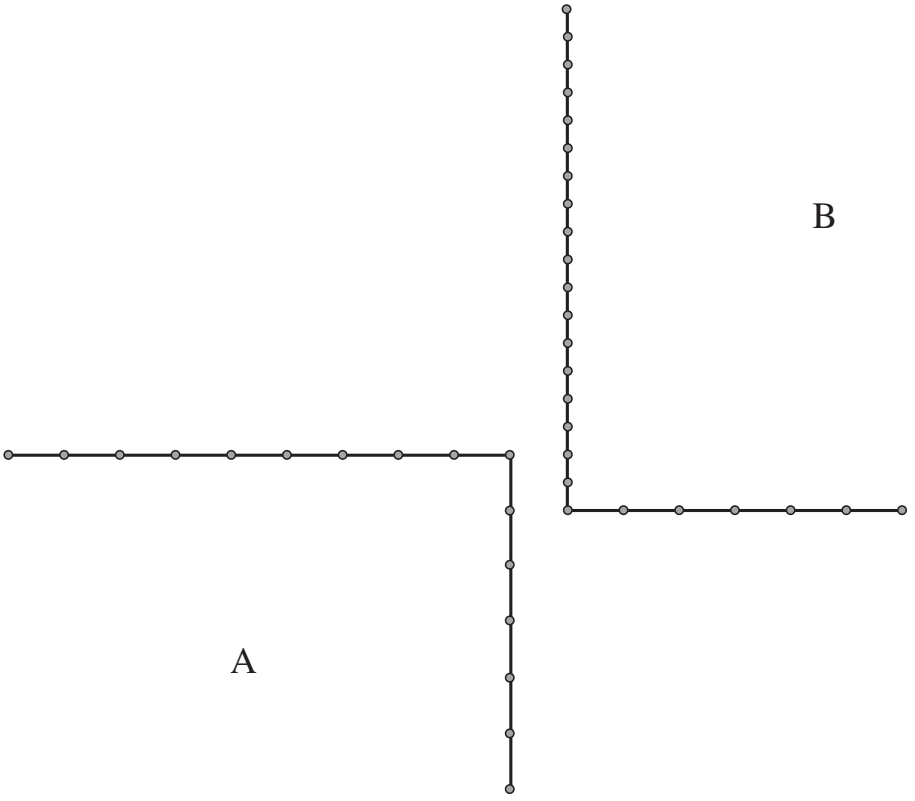
Draw a rectangle that has the same distance around as this rectangle, but has a different shape.



Name _____ Date _____

PROBLEM 31

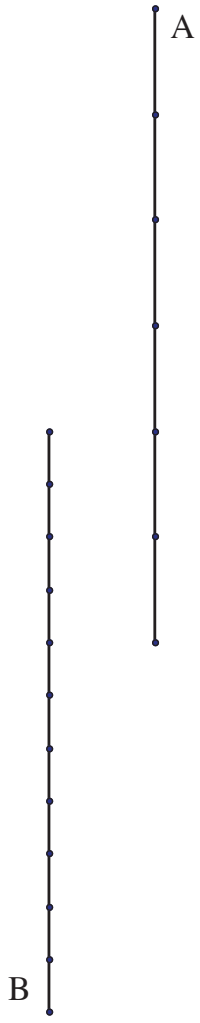
Which figure is longer? Or, are the two figures the same length?



Name _____ Date _____

PROBLEM 32

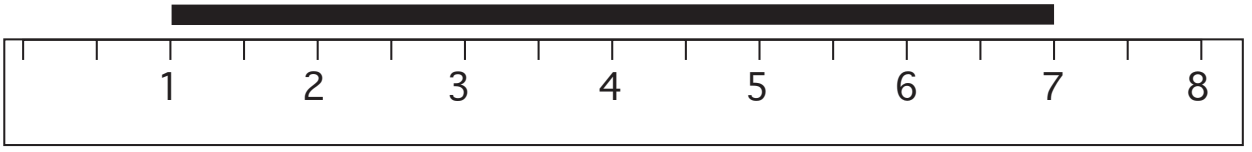
Which line is longer, or are they both the same length?



Name _____ Date _____

PROBLEM 33

PART A. John used a ruler to measure the length of the black stick.



John said that the length of the black stick is 7.
Tell whether John's answer is right or wrong.

Circle your answer: John is right John is wrong I don't know

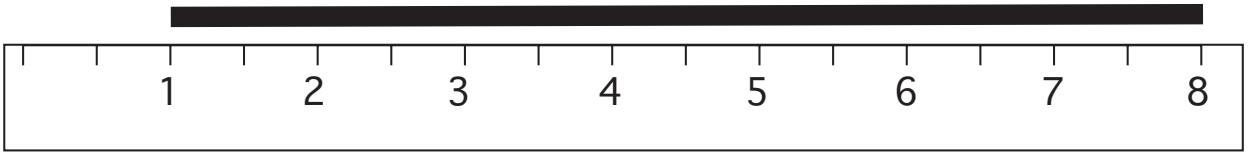
PART B. John used a ruler to measure the length of the black stick.

John said that the length of the black stick is 6.
Tell whether John's answer is right or wrong.

Circle your answer: John is right John is wrong I don't know

Explain your answer.

PART C. John used a ruler to measure the length of the black stick.



John said that the length of the black stick is 7.
Tell whether John's answer is right or wrong.

Circle your answer: John is right John is wrong I don't know

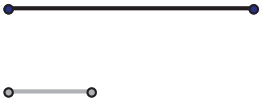
Explain your answer.

PART D. Use the ruler to find the length of the black stick. How did you find your answer?

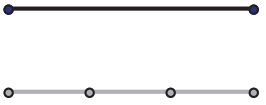
Name _____ Date _____

PROBLEM 34

I have two sticks, a black one and a gray one [point respectively along the two pictured sticks].



It takes 3 gray sticks to make 1 black stick [point along the gray then along the black stick].
[Do not point to or count individual gray segments.]



It takes 5 black sticks to make the dotted line [point along the black then along the dotted stick].
[Do not point to or count individual black segments.]

How many gray sticks does it take to make the dotted line [point along the dotted segment]? How do you know?

Name _____ Date _____

PROBLEM 35

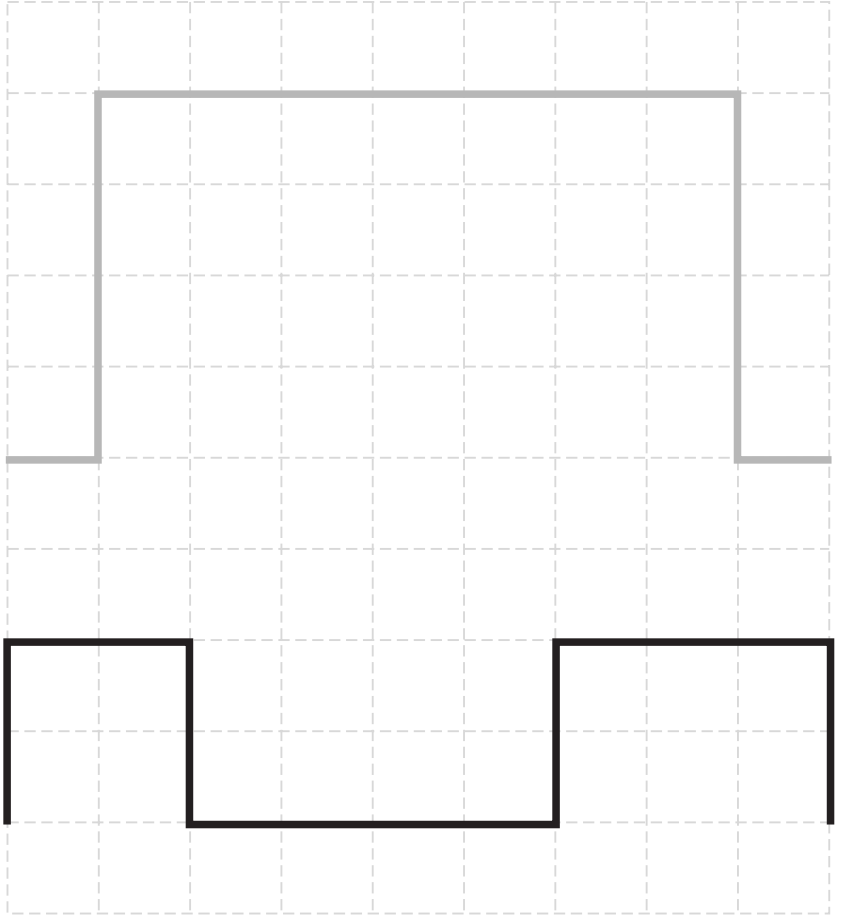
PART A. If these are wires and I pull them so they are straight, which will be longer, or will they be the same length? How do you know?

[If the student does not count segments or squares, ask:]

PART B. Probe 1: Is there another way to figure out the answer?

[If the student still does not count segments or squares, ask:]

PART C. Probe 2: Could counting anything help you figure out the answer? How did counting these [whatever the student counts] help you decide which wire is longer?



Name _____ Date _____

PROBLEM 36

PART A. Use the inch-ruler to find the length of the black stick. Explain your answer.

PART B. These are inch rods [show inch rods].

Predict how many inch rods it takes to make the black stick

PART C. Use the inch rods to check your answer.

Were you right? If not, why?

Name _____ Date _____

PROBLEM 37

PART A. Use the inch-ruler to find the length of the black stick. Explain your answer.

PART B. These are inch rods [show inch rods].

Predict how many inch rods it takes to make the black stick.

PART C. Use the inch rods to check your answer.

Were you right? If not, why?

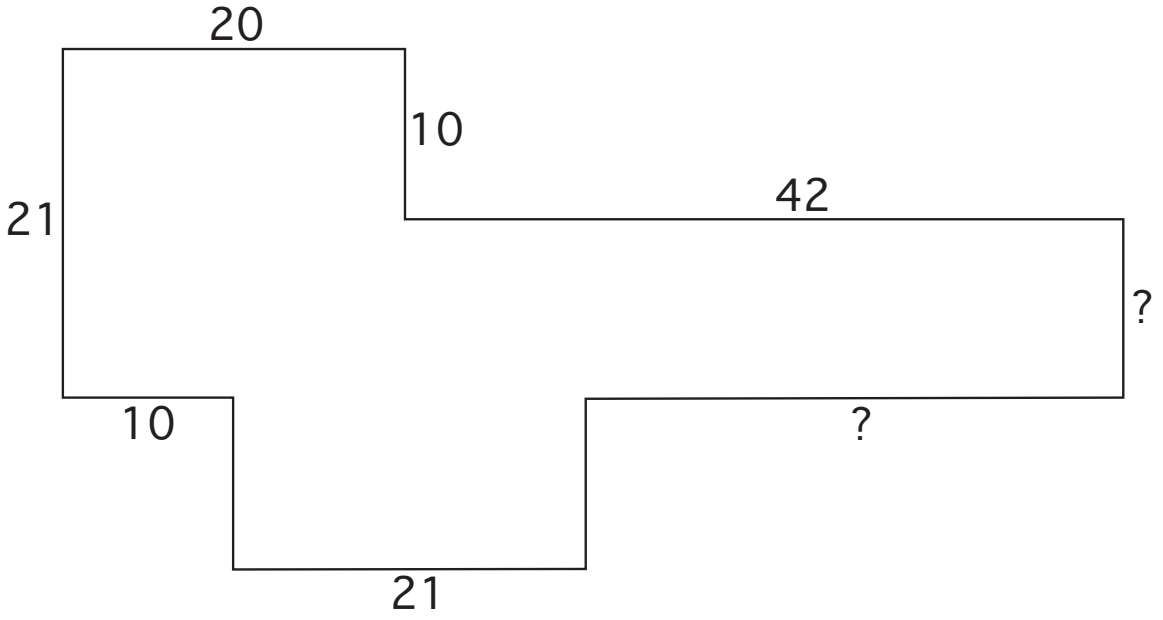
Name _____ Date _____

PROBLEM 38

The lengths of some of the sides of this shape are shown.

Find the lengths of the two sides that have question marks beside them.

Explain how you got your answers.

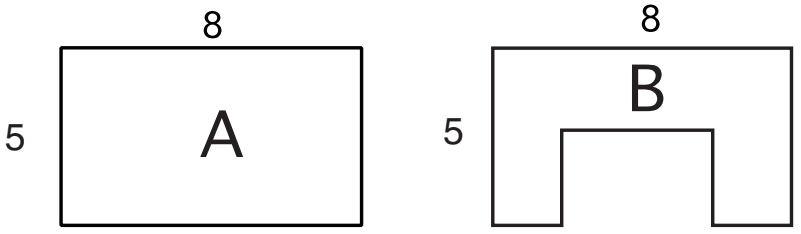


Name _____ Date _____

PROBLEM 39

Suppose I trace a path along Figure A [trace along path with pen, but don't leave a mark], then I trace a path along Figure B [trace along path with pen].

Which path is longer? Or are the paths the same length?

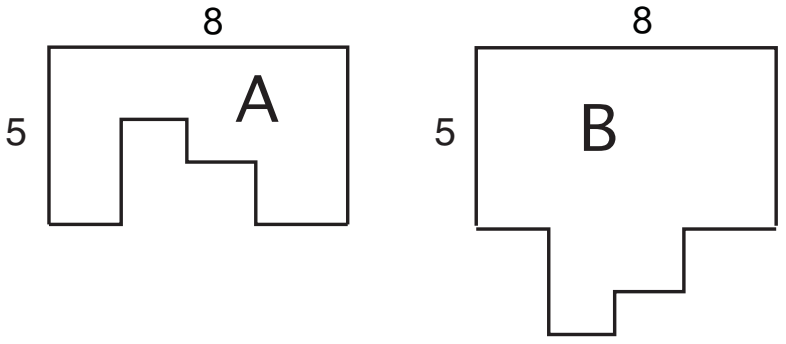


Name _____ Date _____

PROBLEM 40

Suppose I trace a path along Figure A [trace along path with a pen, but don't leave a mark], then I trace a path along Figure B [trace along path with a pen].

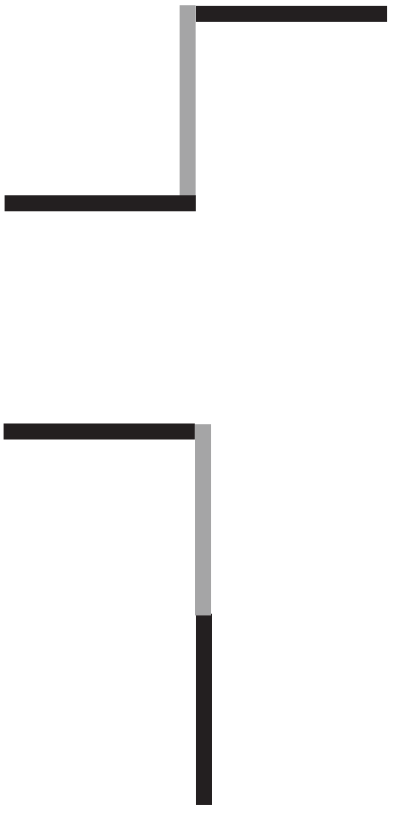
Which path is longer? Or are the paths the same length?



Name _____ Date _____

PROBLEM 41

PART A. Suppose I pull the wires so they are straight. Which wire would be longer, or would they be the same?



[If the student does not count rods, ask:]

PART B. Can counting the rods or parts of the wires help you solve the problem?

PART C. Give the student rods and ask him or her to check the answer.

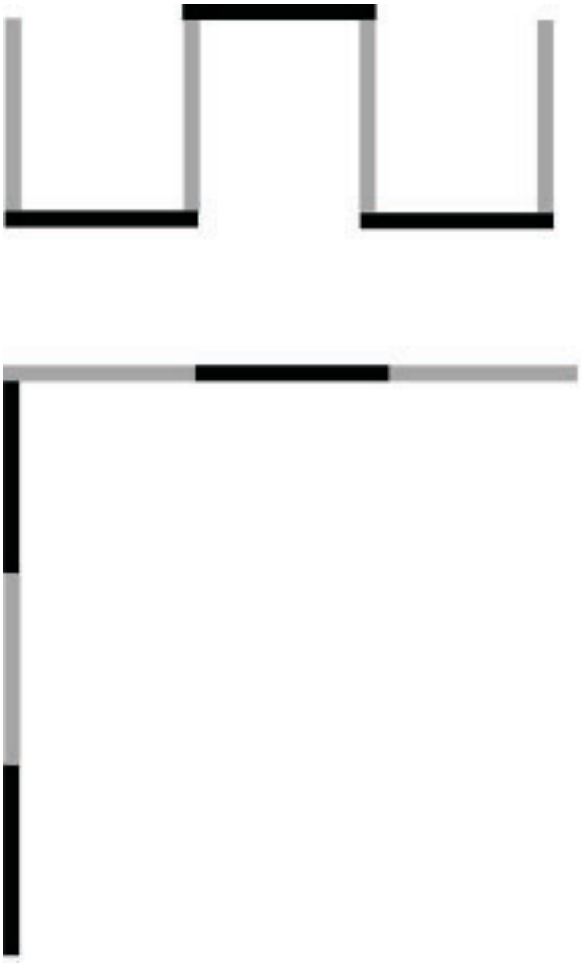
Name _____ Date _____

PROBLEM 42

PART A. Suppose I pull the wires so they are straight.

Which wire would be longer, or would they be the same?

How do you know?



PART B. Have the student check with inch rods.

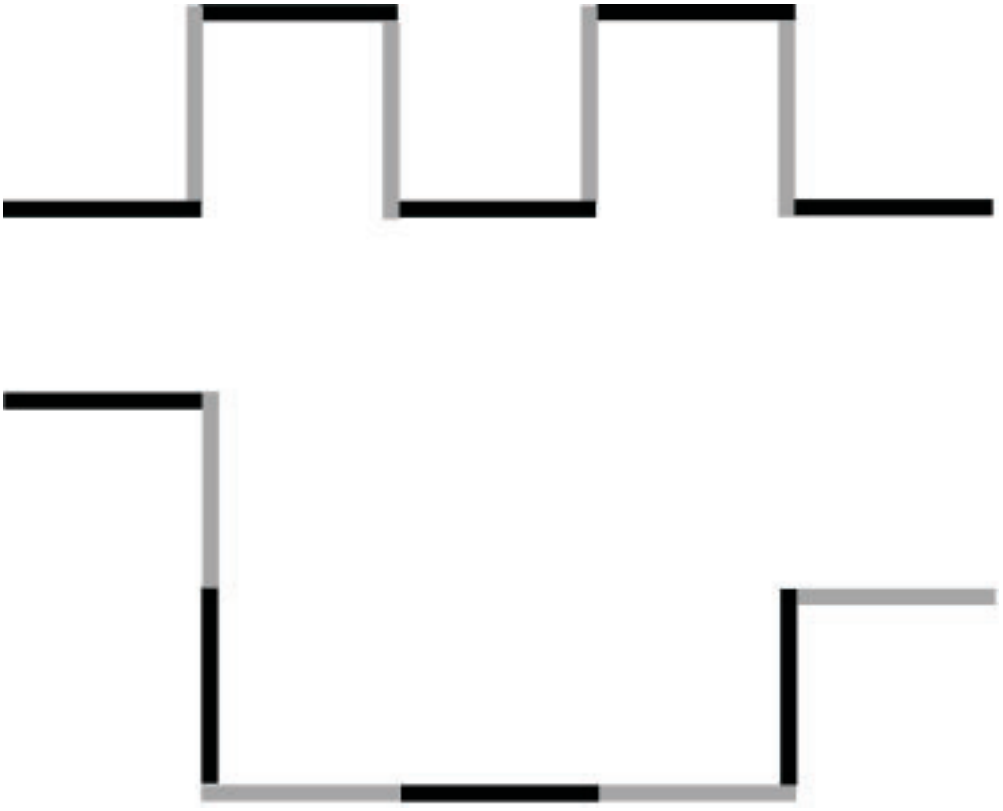
Name _____ Date _____

PROBLEM 43

PART A. Suppose I pull the wires so they are straight.

Which wire would be longer, or would they be the same?

How do you know?



PART B. Have the student check with inch rods.

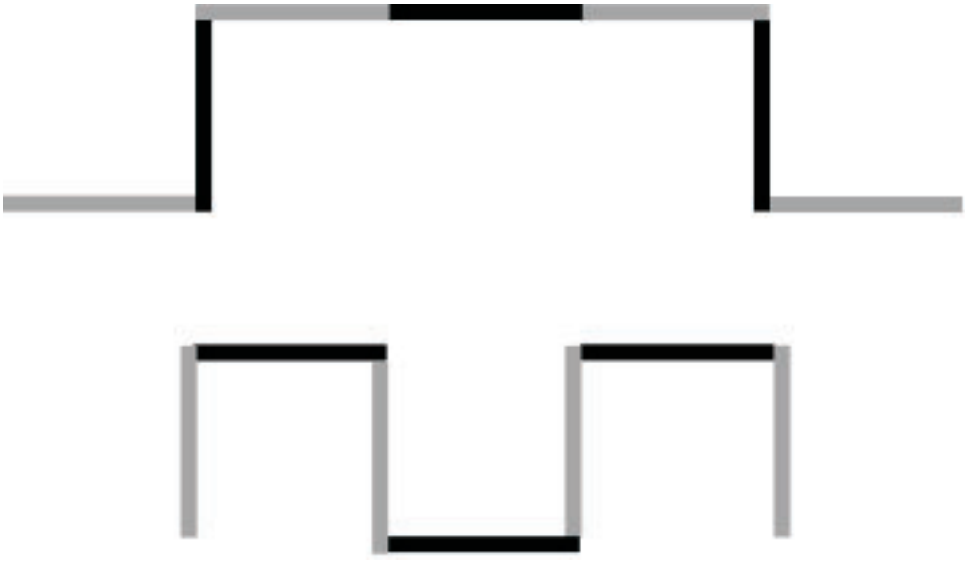
Name _____ Date _____

PROBLEM 44

PART A. Suppose I pull the wires so they are straight.

Which wire would be longer, or would they be the same?

How do you know?



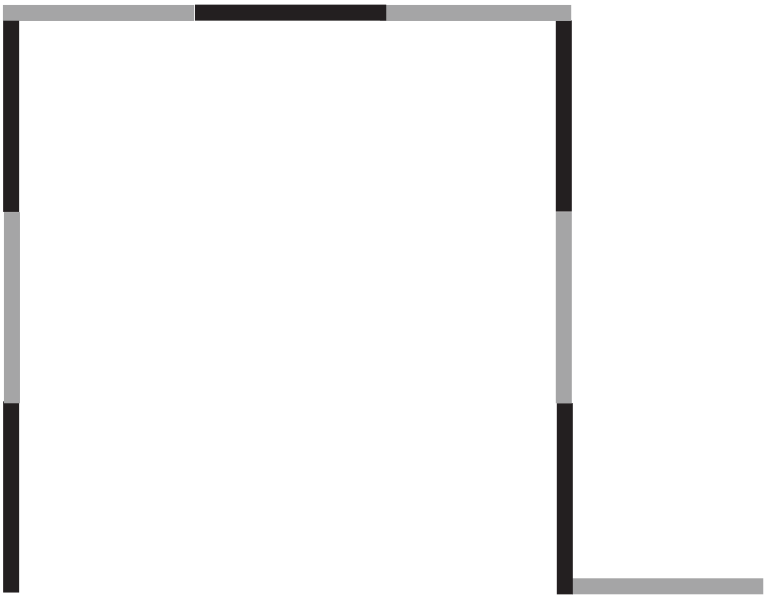
PART B. Have the student check with inch rods.

Name _____ Date _____

PROBLEM 45 (*Continued*)

PART A. Which wire is <u>longer</u>, or are they the same length?

How do you know?



[If student does not count segments ask:]

PART AA. Can counting the segments help you figure this out? Why?

Name _____ Date _____

PROBLEM 45 (*Continued*)

[After student answers Part A]

PART B. Suppose I pull the wires so they are straight.

Which wire would be longer, or would they be the same? How do you know?

[If student does not count segments ask:]

PART BB. Can counting the segments help you figure this out? Why?

PART C. [Show the actual wires] Here are real wires. Which wire is longer, or are they the same length? How do you know?

[Have the student check by using the wires.]

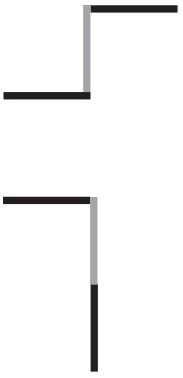
PART CC. Are the number of segments on the two wires the same, or are they different? [Have the student answer without counting.]

Name _____ Date _____

PROBLEM 46

Three students have tried to solve this problem:

Suppose I pull the wires so they are straight. Which wire would be longer, or would they be the same?

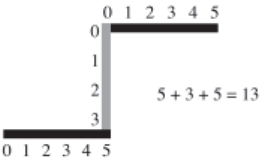


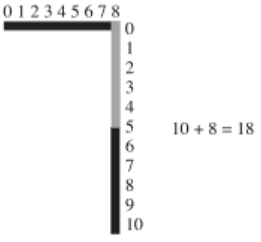
The first student solved the problem as shown and said, "The bottom wire is longer because 18 is bigger than 13."

Is this student right, wrong, or can't you tell?

Why?

Student 1





Name _____ Date _____

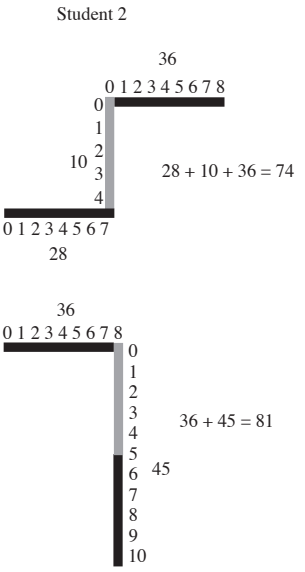
PROBLEM 46 (*Continued*)

The second student solved the problem as shown and said, "The bottom wire is longer because 81 is bigger than 74."

Is this student right, wrong, or can't you tell?

Why?

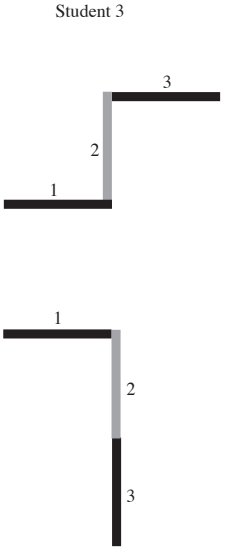
Why did the student count this way?



The third student solved the problem as shown and said, "The two wires are the same length because both are 3 units long."

Is this student right, wrong, or can't you tell?

Why?



Give the student the inch rods to check answers.