



FLAGPOLES

Two flagpoles are 30 metres apart. One has height 10 m and the other has height 15 m.

Two tight ropes connect the top of each pole to the foot of the other. Draw a diagram.

How high do the two ropes intersect above the ground?

What if the poles were a different distance apart?

Help

You should draw a diagram.

Draw a horizontal line for the ground and draw 2 vertical flagpoles.

Draw 2 straight lines for the ropes.

Mark in the known lengths and distances given in the question.

Mark in your diagram the point on the ground directly underneath the intersection of the two ropes.

Then calculate the distances of this point from the foot of each flagpole.

Extension

‘What if the flagpoles were a different distance apart?’

Try different distances. Each member of the group (or class) should choose their own distance and calculate the height of the intersection of the ropes.

Compare answers. Make a conjecture. Try to prove your conjecture.










HOW TO READ THE PROBLEM AND WHAT TO ASK YOURSELF

1. Read it slowly. Read it bit by bit
2. "Do I understand all the words?"
3. If not look them up, ask a friend or ask the teacher.
4. "What information am I given?" Make a note of it.
5. Draw a diagram or make a chart of the given information.
6. Sometimes put the given information into an equation.
7. "What am I supposed to find out?"
8. "Have I seen a problem like this before? What did I use to solve that one?"
9. "Do I know any maths that could help?"

DRAWING THE DIAGRAM

A diagram is essential for this problem. Have you put all the given information into the diagram? Compare your diagram with diagrams drawn by other people. Which is the best one to use?

PROBLEM SOLVING STRATEGIES

SOME PROBLEM SOLVING STRATEGIES				
 Create or draw a picture or diagram	 Work backwards	 Make the problem simpler	 Use or look for a pattern	 Use logical reasoning
 Use, draw or create a table, an organized list, or graph	 Act out or use concrete materials or objects	 Guess and check	 Brainstorm ideas by yourself or with a friend and keep a record	

See <http://www.learningplace.com.au> for a collection of resources