Guide to:
Forming and solving equations

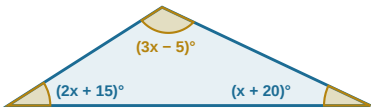
maths Links

Explanation:

To form and solve an equation from a word problem or geometry diagram, write an algebraic expression for each part using the given letter, then use a known mathematical fact to set up an equation with an **=** sign.

Common facts used in exams include: **perimeter** = sum of all outer sides, **opposite sides of a rectangle** are equal, **angles on a straight line = 180°**, **angles in a triangle = 180°**, and **angles in a quadrilateral = 360°**. Always read the end of the question to check if you need to substitute *x* back in!

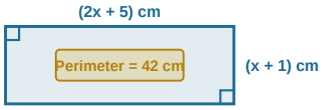
Example 1: Find the size of the **largest angle** in the triangle below.



$(2x + 15) + (3x - 5) + (x + 20) = 180$ → $\mathbf{6x + 30 = 180}$ → $\boldsymbol{x = 25}$

Largest angle = 3(25) − 5 = **70°**

Example 2: A rectangle has sides **$(2x + 5)$ cm** and **$(x + 1)$ cm**, and **perimeter 42 cm**. Find its length.



$2(2x + 5) + 2(x + 1) = 42$ → $\mathbf{6x + 12 = 42}$ → $\boldsymbol{x = 5}$

Length = 2(5) + 5 = **15 cm**

Worksheets and other links					
Video Lesson on this topic	Video		**Naiker Maths**	Qs	Ans
Ken Stafford (Past Paper Qs)	Qs	Ans	**Dr Austin Maths**	Qs	Ans
Maths Genie	Qs	Ans	**Metatutor**	Qs	Ans
Corbettmaths (Practice)	Qs	Ans	**E Classroom**	Qs	Ans
Corbettmaths (Textbook)	Qs	Ans	**PMT (Edexcel)**	Qs	Ans
1st Class Maths	Qs	Ans	**PMT (AQA)**	Qs	Ans

Questions by topic

Past Papers

Maths worksheets

Buy workbook

Quizzes

More resources like this

ken@mathslinks.co.uk