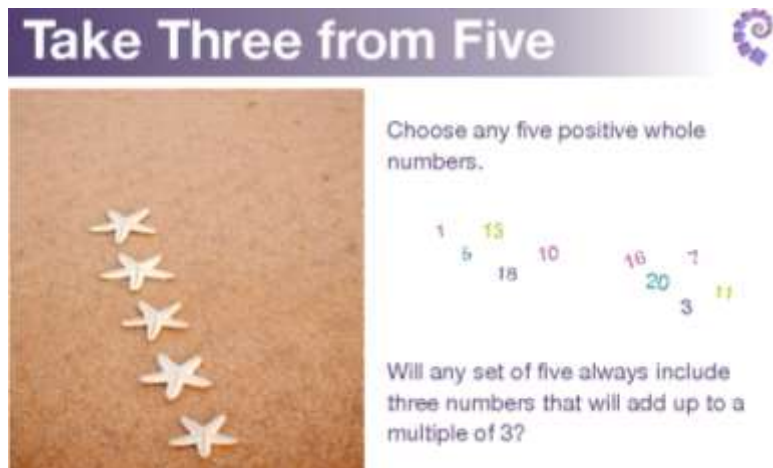


KS3 More Able Homeworks

Homework 1 – Famous Mathematicians and their Maths Poster

Research a famous mathematician and the maths they are most well known for. Create a poster showing at least 5 key facts about the mathematician, and a basic understanding of the mathematics that they created.

Homework 2 – Investigation project



Take Three from Five

Choose any five positive whole numbers.

Will any set of five always include three numbers that will add up to a multiple of 3?

Homework 3 – Why we need maths – research project

Research project on the uses of maths in the real world, and the consequences when we get the maths wrong!
Example:

The Situation: The unmanned **NASA Mars Climate Orbiter** reached Mars and executed a 16 minute 23 second main engine burn on 23rd September 1999 to establish an orbit around Mars at 150km. It orbited behind Mars and was never heard from again.

The Maths Error: Oops! Muddled Units of Length!

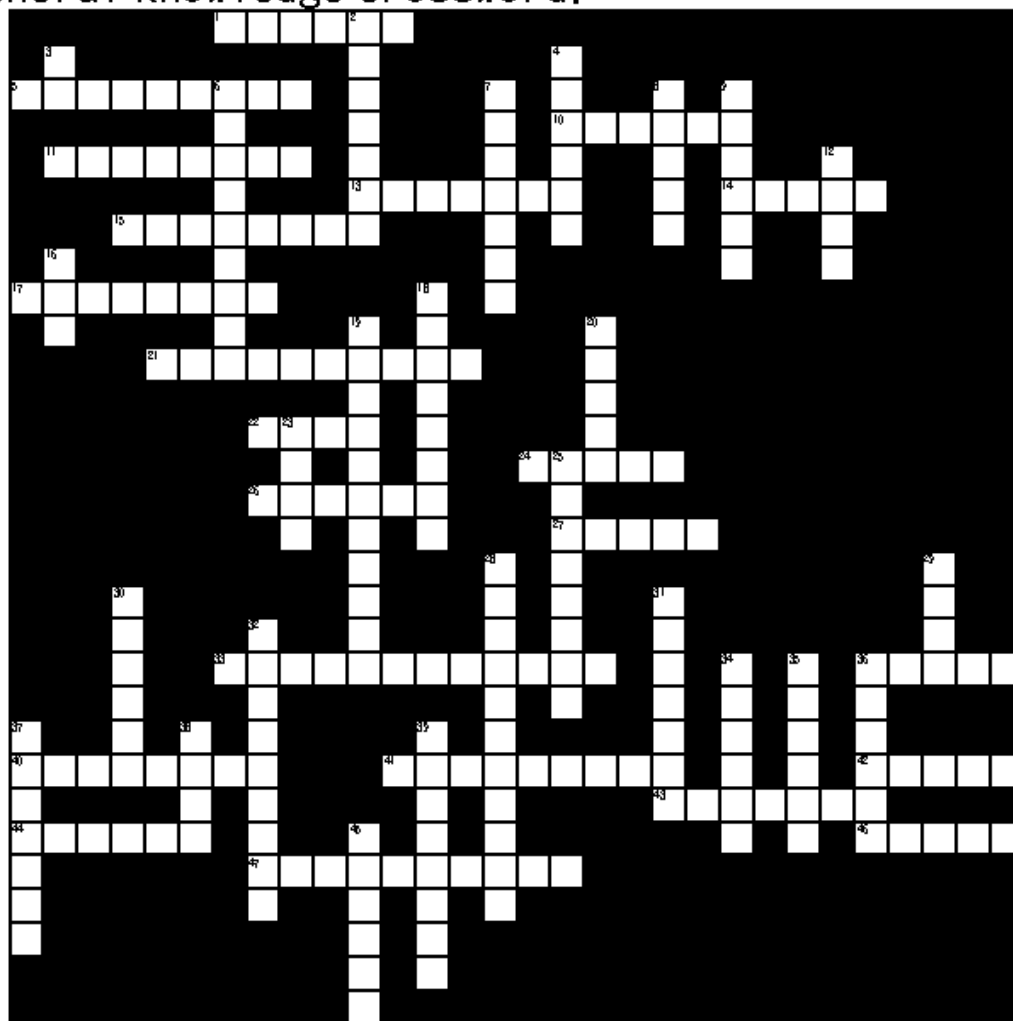
The Mars Climate Orbiter, which cost \$Aus 136 million, disappeared because a Lockheed Martin engineering team used Imperial measurements while the JPL (Jet Propulsion Lab) team used the more conventional metric system. The wrong navigation information was sent to the Mars Climate Orbiter. It most likely burnt up in the atmosphere.



Homework 4 – General Maths Knowledge

Crossword (next page) that they can go and research facts in order to fill out.

A maths general knowledge crossword.



Across

- 1 What is measured in kilograms
- 5 Famous number sequence: 0, 1, 1, 2, 3, 5, 8, 13, 21
- 10 A four-sided regular polygon
- 11 A list of numbers that follows a rule
- 13 A polygon with eight sides
- 14 The cube root of twenty seven
- 15 The number of pounds in a stone
- 17 A line that crosses all the way across a circle and passes through the centre
- 21 Ancient Greek mathematician who was a vegetarian and discovered a famous triangle theorem
- 22 The fraction equivalent to 50 percent
- 24 A line that crosses all the way across a circle
- 25 Average- line them up from smallest to the highest then find the one in the middle
- 27 A number that only has two factors
- 33 Putting numbers into an algebraic expression, equation or formula
- 36 Distance divided by time
- 40 An angle inside a polygon
- 41 A measurement of the distance around a shape
- 42 The number of pints in a gallon
- 43 A type of graph used to look for correlation
- 44 The number of inches in a foot
- 45 The cube of two
- 47 A type of number with never-ending, non-repeating digits after the decimal point

Down

- 2 A polygon with six sides
- 3 The number of times the diameter of a circle fits into its circumference
- 4 In a right angled triangle- adjacent/hypotenuse
- 6 What we call shapes that are the same shape and size as each other
- 7 In a right angled triangle- opposite/adjacent
- 8 Highest number subtract the lowest number
- 9 A measurement that has both size and direction
- 12 Average- add them all up and divide by how many numbers you have got
- 16 A graph that shows proportion but not absolute numbers
- 18 The slope of a line on a graph
- 19 The number in front of a letter in an expression
- 20 A measure of how much there is of one thing in comparison with another
- 23 What metres square measure
- 25 A polygon with seven sides
- 28 Putting an expression into brackets
- 29 Average- most common number
- 30 What centimetres cubed measure
- 31 All the whole numbers that you can divide into a particular number without getting a remainder
- 32 A polynomial equation of degree two
- 34 The order in which calculators do their calculations
- 35 What millimetres measure
- 36 The shape of a football
- 37 The number of ounces in a pound
- 38 In a right angled triangle- opposite/hypotenuse
- 39 What ships use to navigate
- 45 A line from the centre of a circle to the edge