

Mathematics – Problem Solving

There are 4 problems for you to attempt, you do not have to do them all, go as far as you can. They get progressively harder.

Remember to show your working out and present your final answer clearly.



Foundation

Problem	Working Out
Alfie has a £10 note He buys 3 pens costing £1.45 each and some pencils costing 90p each. If Alfie gets £2.05 change, how many pencils does he buy?	
Solution	
Further Problems: https://www.youcubed.org/tasks/optical-art-task/ http://www.mathsphere.co.uk/resources/MathSphereMathsPuzzles.htm	

Developing

Problem	Working Out
Use the digits 1, 2, 3, 3, 5, 6 to fill in the missing numbers to make the calculation correct $\boxed{} \times \boxed{}\boxed{} - \boxed{} = \boxed{}\boxed{}$	
Solution	
Further Problems: https://nrich.maths.org/11012 https://sites.google.com/site/inquirymathsprimary/	

Secure

Problem	Working Out
a, b and c are three different positive integers where $a + b + c = 10$ What is the maximum possible value of abc ?	
Solution	
Further Problems https://www.sudokuconquest.com/ https://corbettmaths.com/5-a-day/primary/	

Excellence

Problem	Working Out
Find x and y if $\frac{x}{4} \text{ of } y = 270 \quad \text{and} \quad \frac{y}{x} = 120$	
Solution	
Further Problems https://www.ukmt.org.uk/sites/default/files/ukmt/ptmr/ptmr-sample-logic.pdf https://www.ukmt.org.uk/sites/default/files/ukmt/ptmr/ptmr-sample-speed.pdf https://www.ukmt.org.uk/sites/default/files/ukmt/ptmr/ptmr-sample-crossnumber.pdf	

