

Algebra Magic – the 22 Puzzle

Write down any 3 different digits

4 5 7

Add these digits together

$$4 + 5 + 7 = 16$$

Write down all of the different two digit numbers you can make with those digits. You should have written down 6 numbers.

45

47

54

57

74

75

Add the six numbers together.

$$45 + 47 + 54 + 57 + 74 + 75 = 352$$

Divide this sum by the sum of the 3 digits. The answer is always 22

Use algebra to show why.