

Weekly Quiz

Questions:

Week 2 – Solutions to the maths office by Thursday 16th September

1. What is the fraction which is exactly between $\frac{1}{2}$ and $\frac{1}{3}$?
2. My sister says that when she went to a party yesterday no two of those present had birthdays in the same month. What is the greatest number of people that could have been at the party?
3. The square of a number is 12 more than the number itself. The cube of the number is 9 times the number. What is the number?
4. Just along the beach from me was a man attempting to read a newspaper. The wind blew, separated all the sheets and sent them all over the place: one landed on my sandcastle and as I looked down on it the left hand side was page 20 and the right hand side was page 5. How many sheets had been scattered across the beach?
5. The three angles of a triangle are $(x + 10)^\circ$, $(2x - 40)^\circ$ and $(3x - 90)^\circ$. What can you say about the triangle?

Weekly Quiz

Solutions:

Week 2 – 16/09/04

1. $\frac{1}{2} \equiv \frac{3}{6} \equiv \frac{6}{12}$

$\frac{1}{3} \equiv \frac{2}{6} \equiv \frac{4}{12}$ Therefore fraction in between is $\frac{5}{12}$

2. No two people present has same Birthday month therefore maximum of 12 people

3. $x^2 = x + 12$ and

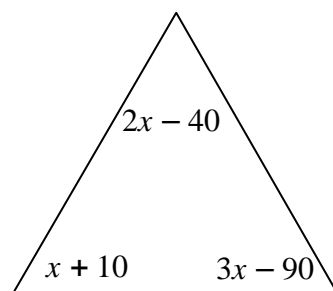
$x^3 = 9x$ Therefore $x = +3$ or -3

and $(-3)^2 = -3 + 12$ so original number must be -3

4. 6 sheets of paper

- 1,2 – 23,24
- 3,4 – 21,22
- 5,6 – 19,20
- 7,8 – 17,18
- 9,10 – 15,16
- 11,12 – 13,14

5.



$$x + 10 + 2x - 40 + 3x - 90 = 180$$

$$6x - 120 = 180$$

$$6x = 300$$

$$x = 50$$

Therefore triangle equilateral