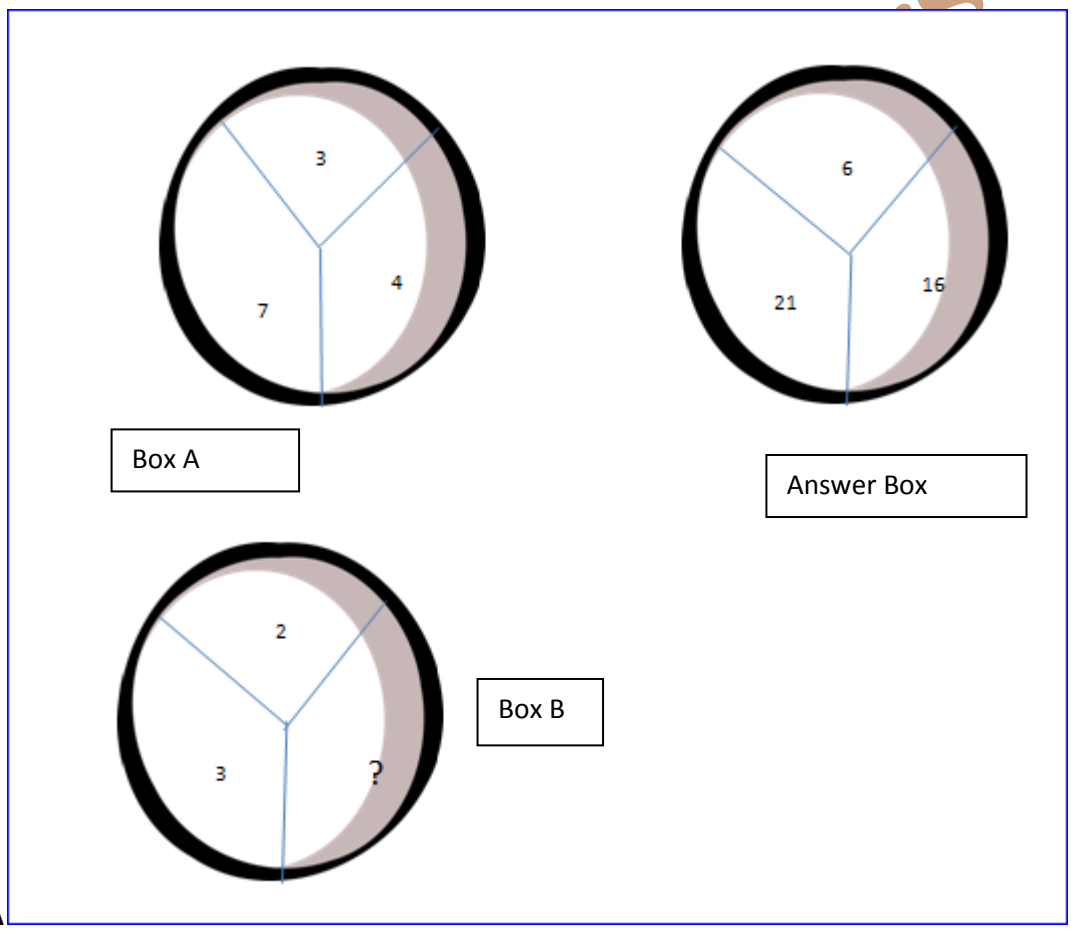
Year 6 (Questions) These selection of questions cover a variety of questions which children are expected to answer correctly after using some analysis and deductive reasoning. They are not difficult, however children must be able to break the question down into parts and work on arriving at the solution.

These are a selection of questions which cover different sorts of areas in Maths, from ratios, to fractions, to graphs, to geometry, to IQ questions to spatial reasoning questions.

Question 1

A



What number will replace the question Mark? Box A and Box B are related to derive the answer in the "Answer Box" (5- minute time limit) (Considered easy to answer in one look)

2) Express 12 seconds as a ratio of 1 hour.

A) 1:5 b) 1: 240 c) 1: 300 d) 1: 500

Complete the table below, giving your answer in the simplest form where necessary,

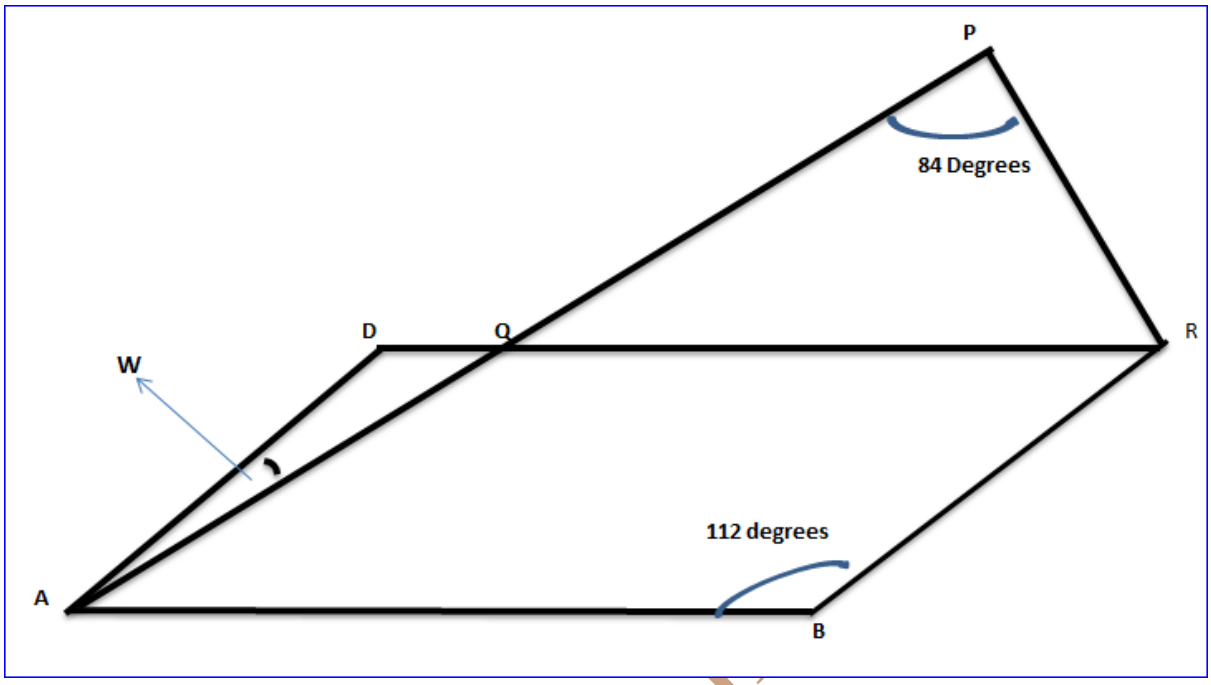
Fraction	Decimal	Percentage
A) 2/5	0.6 b)	b) C) 65%

4) The membership of a sporting club the Hawks decreased by 20% because the club increased the fees by 30%. There were 200 members this year. How many members were there in the club last year?

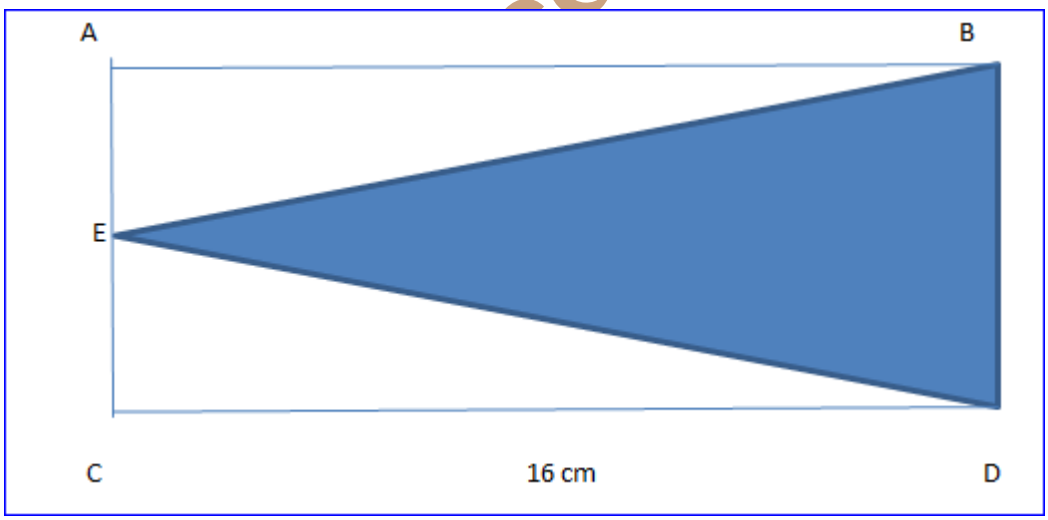
5) Both brothers took a test to get into a Top university in France. George answered 60% of the questions correctly. While his brother answered 25% of the questions incorrectly. How many percent more questions did George answer correctly compared to this brother.

6) Look through the figure and take your time to understand how the parallelogram is related to the triangle. There is an isosceles triangle PQR and ABRD is a parallelogram. Angle P is 84 degrees and Angle B is 112 degrees.

Calculate what is the value of angle a.



7. Area and Perimeter.



The figure is a Rectangle where the length is 16 cm and the breadth is 14 cm. If AE is 8 cm. Find the area of the shaded portion.

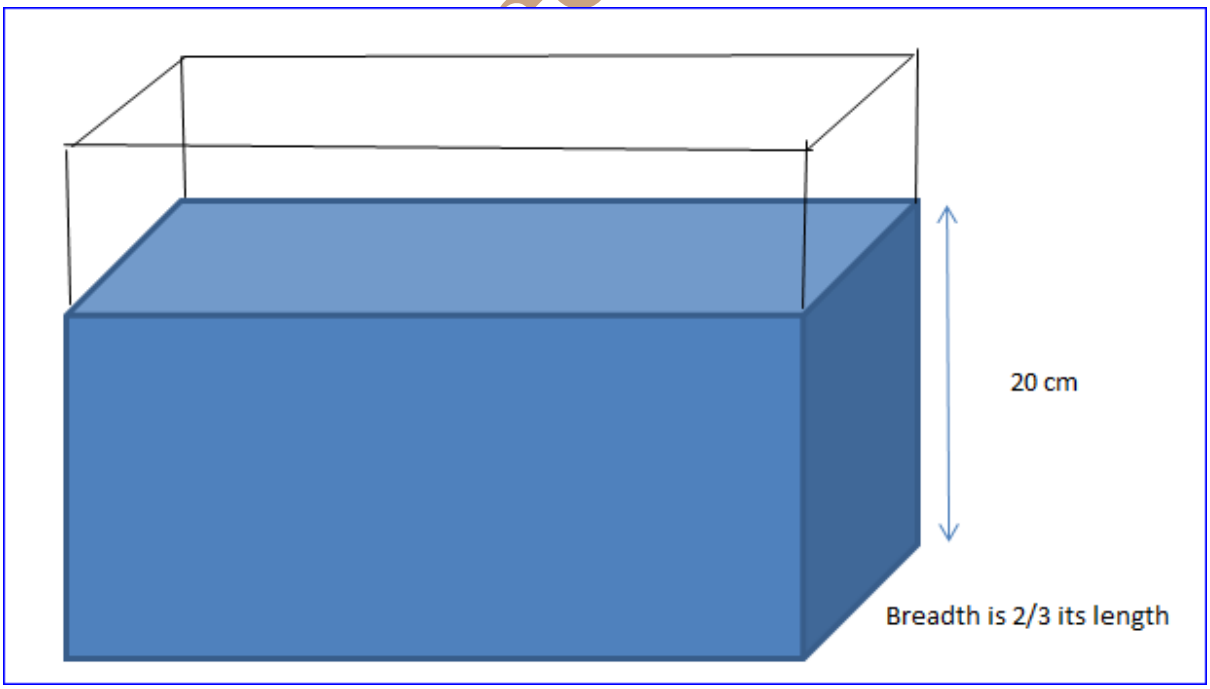
8) Use the information below to answer question 8 and 9. At the club there were some elderly folks that came to the club to play bridge. This is the statistics that was collected.

Number of games Played	0	1	2	3	4	5
Number of people	3	6	7	8	9	4

a) **How many people played at least 3 games**

b) **If it took about 25 minutes for a person to play a bridge game. What was the longest time that one of these people took playing the game. Give your answer in hours and minutes..... (Hint: you have to look at the grouping of people that played the most games to start your calculation**

9) The breadth of a rectangular tank was 2/3 its length. The tank was filled with 3000 cubic cm of water to a height of 20 cm. Find the length of the tank.



10) As Christmas was approaching, a small plantation owner noticed that he did not have much fruit in his orchard. However the little oranges he had he decided that he would pluck it. By the time he reached home he had given 75% to his son, 0.625 of the remainder to his neighbour and ate one of the remainder. When he got home he found out that he had only 2 oranges left. What is the original amount of oranges that he picked up from his orchard?

The following questions are called deductive maths questions and children are expected to think through using diagrams and word expressions to slowly analyse the question and look for clues in the questions and draw analogies which they will be able to work a solution out. It is envisaged that children will use

a) *Verbal Reasoning*
b) *Numerical reasoning*
c) *Diagrammatic reasoning*
d) *Logical reasoning*
e) *Lateral thinking.*

1) **Joshua is 1.6m tall in height. Joseph is 10% shorter than Joshua in height. Samantha's height is 20% less than Joshua's height. By what percentage is Joseph taller than Samantha? (expected time to complete-5 minutes)**

2) **A, B and C are three numbers. The ratio of A to (B+C) is 2:6. The ratio of (A+B) to C is 8:2. Find the ratio of A to B to C. (Expected completion time= 5 minutes)**

3) **Find the value of 1+3+5+7.....35+37+39 (Expected time to complete 3 minutes)**

4) **The figure below is made up of 6 identical rectangles. The area of the figure 384 sq cm. Find the perimeter of the figure.**

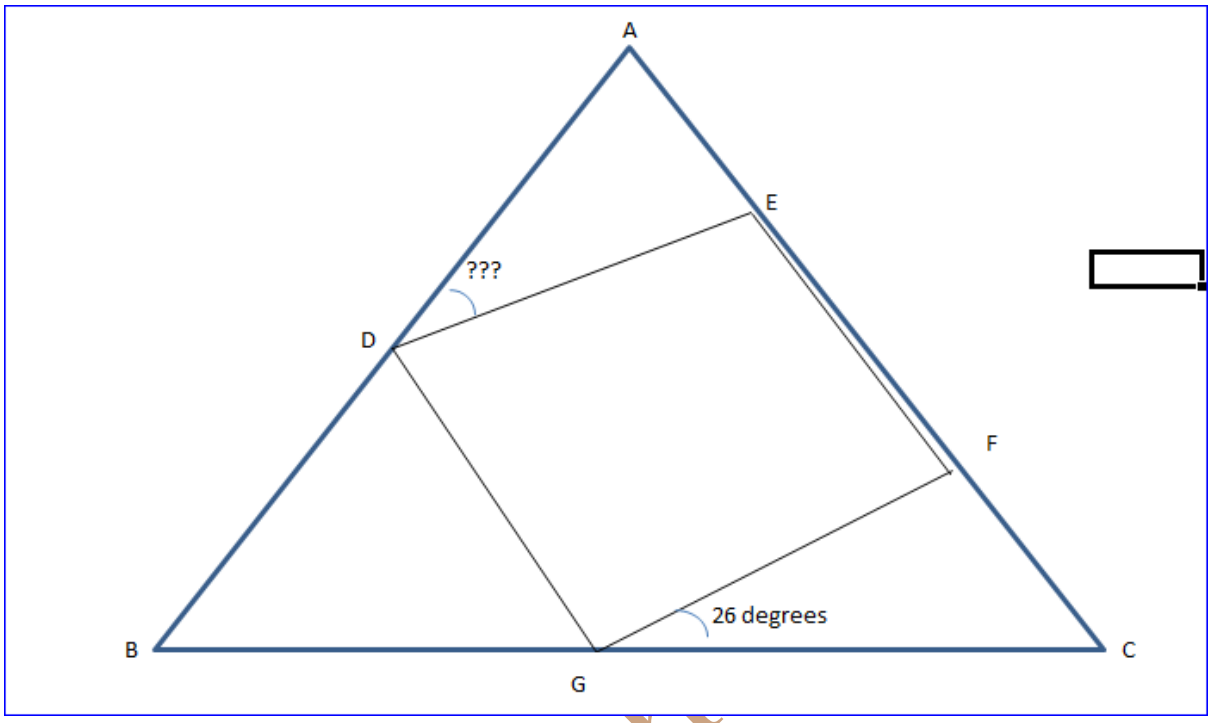
5) Jackie Buckingham decides to drive from Jindabyne to Newcastle. The total journey is approximately 660km away. At about 1030 am, Joseph her son starts the journey from Jindabyne to Newcastle travelling at approximately 60km/h. An hour later, Bruce Leaves town A for town B travelling at a speed of 70km/h. At what time would they catch up. **(5 to 8 minutes)**

6) **At Christmas the Gris walls decided to take a tour and drove their new Toyota Atara. So leaving their house at 1100, they left Canberra travelling at a constant speed, travelling toward Port Macquarie. 2 hours later, a second car a Holden Cruze left Canberra along the same route. The Cruze overtook the Toyota Atara at 1600 hours. What we found out later was that the second car travelled faster than the Gris walls car at 40 km/h.**

   1) **Find the speed that the Gris walls were travelling**
   2) **Find the distance between Canberra and Port Macquarie if the car was 80km from Port Macquarie at 1600 hours.**
   3) **How far was the Toyota Atara away from Port Macquarie when the Cruze reached Town B.?**

(This question looks rather complicated and may need to be slowly broken down and understood so that every aspect of the question can be understood before being answered- allocated time is below 10 minutes)

7. In the figure below, ABC is an Equilateral Triangle. DEFG is a Square within the triangle. Angle FGC is 26 degrees. Find the value of angle ADE.



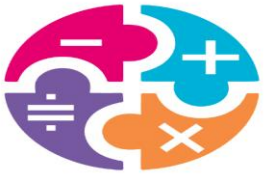
7) Its Chinese New year, and Joseph Lim went to the market to purchase some food. He noticed that 3 chickens and 7 ducks cost $84.00. Also 8 chickens and 7 ducks cost $119. What is the price of 1 chicken? (5 mins)

8) Which of the following fractions is greater than 1/5 (3 minutes)

1) 2/11 2) 3/17 3) 5/23 40 6/31

9) Rihanna spent 3/8 of her savings on a IPAD Pro and ½ of her savings on a new diamond ring. If she spent a total of $560, how much was left in her savings?

10) Find the fraction that is exactly halfway between ¼ and 1/6



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