

Please attempt the following questions in preparation for the online session on 20th April.

Fractions, decimals and percentages

Q1. Evaluate  $4\frac{1}{5} - 2\frac{2}{3}$

Q2. Evaluate  $\frac{5}{12} \times 2\frac{2}{9}$

Q3. Simplify  $\frac{x^2 - 2x - 3}{x^2 - 9}$

Q4. Express  $\frac{7}{x+5} - \frac{3}{x}$  where  $x \neq -5$ ,  $x \neq 0$  as a single fraction in its simplest form.

Q5. Express  $\frac{5t}{s} \div \frac{t}{2s^2}$  giving your answer in its simplest form.

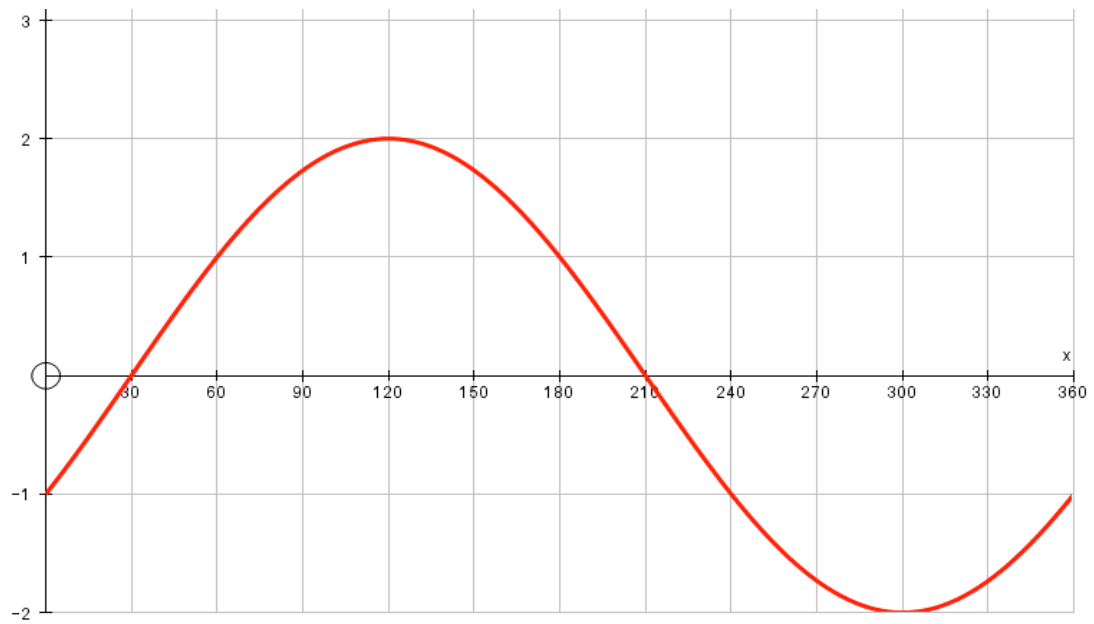
Q6. The value of an antique painting is expected to appreciate by 29% for the next 5 years.  
If it is valued at £640 currently, how much is it expected to be worth in five years time?

Q7. A car is valued at £24000.  
It is expected to depreciate by 2.9% over the next 2 years.  
Calculate its predicted value after 2 years.

Q8. 4800 tickets were sold for a concert last year.  
This represents 96% of all available tickets.  
Calculate the total number of tickets that were available for this concert.

Q9. In a sale all items are reduced by 20%.  
If Graham bought a guitar in the sale for £319.20, how much was the full price?

National 5 Maths: Fractions, decimals and percentages



Q8. Write the following in order of size starting with the smallest.  
 $\sin 60^\circ$      $\sin 210^\circ$      $\sin 270^\circ$

Q9. Show that  $(2\cos x + 5\sin x)^2 + (5\cos x - 2\sin x)^2 = 29$

Q10. Simplify  $\tan^2 x \cos^2 x$ .