

**GRADE 12**  
**REVISION OF PAST PAPERS FOR PRACTICE**  
**November 2019 PAST PAPER**

**QUESTION 1 OF 2019 FINAL EXAM**  
**QUESTION 1**

- 1.1 Solve for  $x$ :
- 1.1.1  $x^2 + 5x - 6 = 0$  (3)
- 1.1.2  $4x^2 + 3x - 5 = 0$  (correct to TWO decimal places) (3)
- 1.1.3  $4x^2 - 1 < 0$  (3)
- 1.1.4  $\left(\sqrt{\sqrt{32+x}}\right)\left(\sqrt{\sqrt{32-x}}\right) = x$  (4)
- 1.2 Solve simultaneously for  $x$  and  $y$ :  
 $y + x = 12$  and  $xy = 14 - 3x$  (5)
- 1.3 Consider the product  $1 \times 2 \times 3 \times 4 \times \dots \times 30$ .  
Determine the largest value of  $k$  such that  $3^k$  is a factor of this product. (4)
- [22]**

**QUESTION 2**

- 2.1 Given the quadratic sequence: 321 ; 290 ; 261 ; 234 ; ....
- 2.1.1 Write down the values of the next TWO terms of the sequence. (2)
- 2.1.2 Determine the general term of the sequence in the form  $T_n = an^2 + bn + c$ . (4)
- 2.1.3 Which term(s) of the sequence will have a value of 74? (4)
- 2.1.4 Which term in the sequence has the least value? (2)
- 2.2 Given the geometric series:  $\frac{5}{8} + \frac{5}{16} + \frac{5}{32} + \dots = K$
- 2.2.1 Determine the value of  $K$  if the series has 21 terms. (3)
- 2.2.2 Determine the largest value of  $n$  for which  $T_n > \frac{5}{8192}$  (4)
- [19]**