وزارة التربية والتعليم

الادارة المركزية لتطوير المناهج

إدارة تنمية مادة الرياضيات

أداءات وتقييمات لمنهج الرياضيات

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رياضيات بحتة لغات ٢ ث علمي ـ الاداء المنزلي ـ الاسبوع الخامس عشر

Revision Exercises on Algebra

1) Write using summation notation the series: $7 \times 1 + 7 \times 2 + 7 \times 3 + 7 \times 4 + \ldots\ldots\ldots + 7 \times 20$

Solu: .....

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2) An arithmetic sequence in which $T_4 = 24$, the ratio of the sum of the first five terms to the sum of the next five terms is as a ratio of 1 : 2 . Find this sequence?

Solu: .....

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3) Find the geometric sequence in which the sum of the first and second terms = 16 and the sum of an infinite number of terms = 25

Solu: .....

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4) If ${}^{n-m}P_3 = 210$, ${}^{n+m}C_4 = 715$, then find the value of each of m , n

Solu: .....

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Revision Exercises on Differentiation Calculus

5) If $y = 2x \sin x \cos x$, then prove that $\frac{dy}{dx} = \sin 2x + 2x \cos 2x$

Solu: .....

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6) If the function f : f (x) = $\begin{cases} a\,x^2 + 1 & , \; x \geq 2 \\ 4\,x - 3 & , \; x < 2 \end{cases}$
is continuous at x = 2 , then find the value of a , then discuss its differentiability at x = 2

Solu: .....

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7) Find the equation of the tangent to the curve y = (x – 2) (x + 1) at the two points of its intersection with x-axis

Solu: .....

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8) Find : $\int \frac{x^2 - 1}{(x^3 - 3\,x)^2}\, d\,x$

Solu: .....

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Revision Exercises on Trigonometry

9) If : A , B , C are the measures of the angles of triangle such that tan B = $\frac{4}{3}$, tan C = 7 , then prove that : A = 45°

Solu: .....

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10) If : sin $\theta = -\frac{4}{5}$, 180° < θ <270° , then without using the calculator find the value of cos $\frac{\theta}{2}$

Solu: .....

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