وزارة التربية والتعليم

الادارة المركزية لتطوير المناهج

إدارة تنمية مادة الرياضيات

أداءات وتقييمات لمنهج الرياضيات

للصف الثانى الثانوى [علمى]

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رياضيات بحتة لغات ٢ ث علمي - الاداء الصفي - الاسبوع الرابع عشر

Exercises on Combinations

1) A , B , C , F , E. are five points lie on one circle. How many triangles can be formed from these points?

Solu: .....

2) A first-year student at a university college studies 7 subjects and is not entitled to move to the next year unless he passes at least five subjects. In how many ways can a student move to the next year?

Solu: .....

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

Solu: .....

4) If ${}^{n}C_3 + {}^{n}C_4 + {}^{n+1}C_5 = {}^{n+2}C_4$, then find the value of ${}^{n}C_6 \div {}^{n}C_5$.

Solu: .....

Exercises on Integration

5) Find : $\int (2x - 1)(x^2 - x + 1)^4 \, dx$

Solu: .....

6) Find : $\int \frac{\cos x - \sin x}{(\sin x + \cos x)^2} \, dx$

Solu: .....

7) Find : $\int \frac{\cos x}{1 - \cos^2 x} \, dx$

Solu: .....

8) Find : $\int \sec^3 x \tan x \, dx$

Solu: .....

Exercises on trigonometric functions of the half-angle

9) If : $\tan A = \frac{1}{7}$, $\tan 2B = \frac{3}{4}$ such that $A, B \in]0, \frac{1}{3}\pi[$,
then without using the calculator prove that : $\tan (A + B) = \frac{1}{2}$

Solu: .....

10) Find the value of x such that $x \in]0, 2\pi[$ and satisfy : $\sin 2x = \sin x$

Solu: .....