جامعة الملك عبدالعزيز.

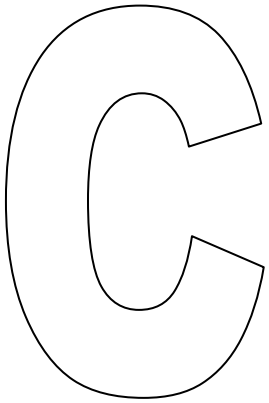
كلية العلوم. الاسم:_____

قسم الرياضيات. الرقم الجامعي:_____

math 202.
Calculus 2.

First Exam

Date: Saturday 21 / 4 / 1432 H.
Time: from 21:00 to 22:30.



- تأكد من أن رمز نموذج الإجابة لديك هو C .
- أكتب اسمك على هذا النموذج ثم تأكد من تعبئة جميع بيانات نموذج الإجابة **خاصة رقمك الجامعي و بقلم الرصاص.**
- تأكد من تعبئة نموذج الحضور بصورة صحيحة.
- أجب عن جميع الأسئلة الآتية بتظليل الخيار الصحيح في نموذج الإجابة **بقلم الرصاص**.
- ممنوع استخدام الآلة الحاسبة.

Q1.

$\sum_{k=1}^{5}(3-k^2) =$

(A)	(B)	(C)	(D)
-40	-45	-104	-105

Q2.

The definite integral which expressed the limit: $\lim_{\|P\|\to 0}\sum_{k=1}^{n}(c_k^4 - c_k)\Delta x_k$, where P is a partition of $[-2\,,7\,]$, is

(A)	(B)	(C)	(D)
$\int_7^{-2}(x^4-x)dx$	$\int_{-2}^{7}(c^4-c)dx$	$\int_{-2}^{7}(x^4+x)dx$	$\int_{-2}^{7}(x^4-x)dx$

Q3.

If f is integrable and $\int_0^3 f(z)dz = 3$ and $\int_0^4 f(z)dz = 7$, then $\int_4^3 f(t)dt =$

(A)	(B)	(C)	(D)
4	10	-4	21

Q4.

If $g(x) \le \frac{1}{3}$ for all $x \in [\,2\,,11\,]$, then

(A)	(B)	(C)	(D)
$4 \le \int_2^{11} g(x)dx$	$\int_2^{11} g(x)dx \le 3$	$\int_2^{11} g(x)dx \le 9$	$9 \le \int_2^{11} g(x)dx$

Q5.

If $y = \int_{x^2}^{2} \cos t \; dt$, then $\frac{dy}{dx} =$

(A)	(B)	(C)	(D)
$2x \cos x^2$	$-2x \cos x^2$	$-2x \sin x^2$	$2x \sin x^2$

Q6.

$\int_{-\pi}^{\pi} \frac{x^3}{x^6+x^2+7}dx =$

(A)	(B)	(C)	(D)
$12-\pi$	$12+\pi$	12	0

Q7.

The area of the region between the x-axis and the graph of $f(x) = x^2 - 2x$ from $x = 0$ to $x = 3$ is

(A)	(B)	(C)	(D)
$\frac{5}{3}$	0	$\frac{8}{3}$	3

السؤال رقم 8 هو تكرار للسؤال رقم 7 و يجب أن تجيب عليه للحصول على درجته

Q8.

The area of the region between the x-axis and the graph of $f(x) = x^2 - 2x$ from $x = 0$ to $x = 3$ is

(A)	(B)	(C)	(D)
$\frac{5}{3}$	0	$\frac{8}{3}$	3

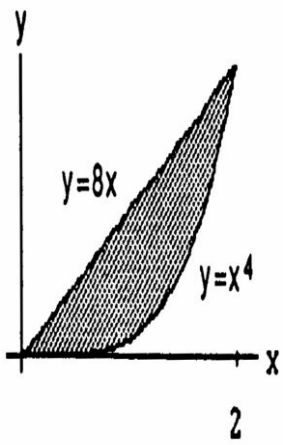
Q9.

$$\int \frac{(\sqrt{7} + \sqrt{x})^5}{\sqrt{x}}\, dx =$$

(A)	(B)	(C)	(D)
$\frac{(\sqrt{7}+\sqrt{x})^6}{3} + C$	$\frac{(\sqrt{7}+\sqrt{x})^6}{3\sqrt{x}} + C$	$\sqrt{7}\,x + \frac{(\sqrt{x})^6}{6} + C$	$\frac{(7x+\sqrt{x})^6}{3\sqrt{x}} + C$

Q10.

The area of the region between the curves of $f(x) = 8x$ and $g(x) = x^4$ is



(A)	(B)	(C)	(D)
$\frac{44}{5}$	$\frac{46}{5}$	$\frac{47}{5}$	$\frac{48}{5}$

السؤال رقم 11 هو تكرار للسؤال رقم 10 و يجب أن تجيب عليه للحصول على درجته

Q11.

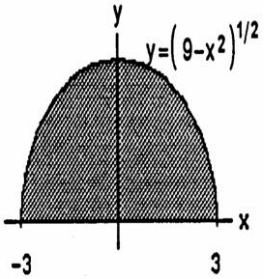
The area of the region between the curves of $f(x) = 8x$ and $g(x) = x^4$ is

(A)	(B)	(C)	(D)
$\frac{44}{5}$	$\frac{46}{5}$	$\frac{47}{5}$	$\frac{48}{5}$

C

Q12.

The volume of the solid generated by revolving the region bounded by the line $y = 0$ and the curve $y = \sqrt{9 - x^2}$ about the x-axis is



(A)	(B)	(C)	(D)
34π	35π	36π	37π

السؤال رقم 13 هو تكرار للسؤال رقم 12 و يجب أن تجيب عليه للحصول على درجته

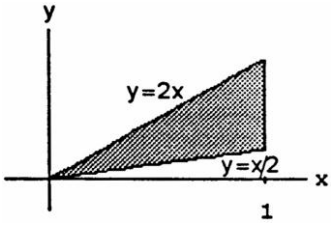
Q13.

The volume of the solid generated by revolving the region bounded by the line $y = 0$ and the curve $y = \sqrt{9 - x^2}$ about the x-axis is

(A)	(B)	(C)	(D)
34π	35π	36π	37π

Q14.

The volume of the solid generated by revolving the region bounded by the lines $y = 2x$, $y = \frac{x}{2}$, and $x = 1$, about the y-axis is



Hint: Use the shell method

(A)	(B)	(C)	(D)
$\frac{\pi}{2}$	π	2π	3π

السؤال رقم 15 هو تكرار للسؤال رقم 14 و يجب أن تجيب عليه للحصول على درجته

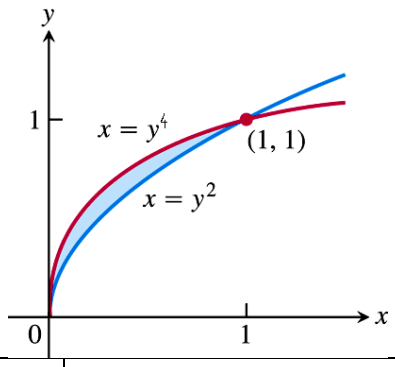
Q15.

The volume of the solid generated by revolving the region bounded by the lines $y = 2x$, $y = \frac{x}{2}$, and $x = 1$, about the y-axis is

(A)	(B)	(C)	(D)
$\frac{\pi}{2}$	π	2π	3π

Q16.

The total area of the region bounded by the curves $x = y^2$ and $x = y^4$ is



(A)	(B)	(C)	(D)
$\frac{2}{15}$	$\frac{4}{15}$	$\frac{6}{15}$	$\frac{8}{15}$

السؤال رقم 17 هو تكرار للسؤال رقم 16 و يجب أن تجيب عليه للحصول على درجته

Q17.

The total area of the region bounded by the curves $x = y^2$ and $x = y^4$ is

(A)	(B)	(C)	(D)
$\frac{2}{15}$	$\frac{4}{15}$	$\frac{6}{15}$	$\frac{8}{15}$

Q18.

If h is an even continuous function and $\int_{-4}^{4} h(x)dx = 4$, then $\int_{0}^{4} 4h(x)dx =$

(A)	(B)	(C)	(D)
9	20	8	12

Q19.

If f' is continuous on $[\,2\,,3\,]$, then $\int_{2}^{3} f'(t)dt =$

(A)	(B)	(C)	(D)
$f'(3)$	$f'(2)$	$f(2) - f(3)$	$f(3) - f(2)$

Q20.

The definite integral $\int_{1}^{3} f(x)dx$ exists if f is

(A)	(B)	(C)	(D)
odd on $[\,1\,,3\,]$	continuous on $[\,1\,,3\,]$	bounded on $[\,1\,,3\,]$	even on $[\,1\,,3\,]$