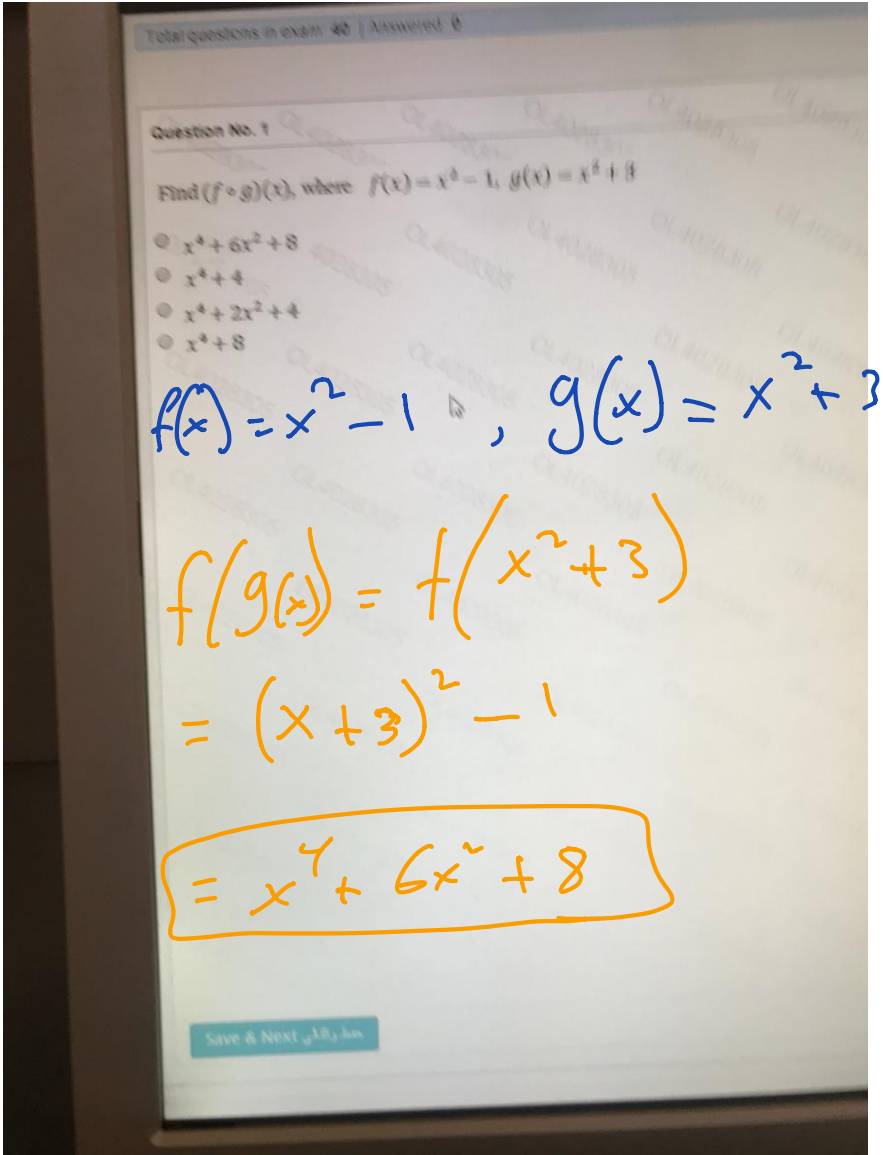
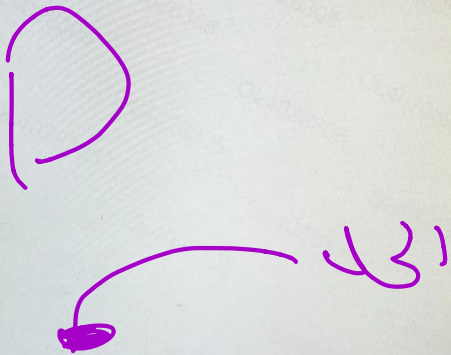

Total questions in exam: 40 | Answered: 0
Question No. 1
Find $(f \circ g)(x)$, where $f(x) = x^2 - 1$, $g(x) = x^2 + 3$
$x^4 + 6x^2 + 8$
$x^4 + 4$
$x^4 + 2x^2 + 4$
$x^4 + 8$
$f(x) = x^2 - 1$, $g(x) = x^2 + 3$
$f(g(x)) = f(x^2 + 3)$
$= (x + 3)^2 - 1$
$= x^4 + 6x^2 + 8$
Save & Next

Total questions in exam: 40 | Answered: 0

Question No. 2

The solution of the equation $2^x = 3^{2x-1}$ is

- $\frac{\ln 2}{2\ln 3 - \ln 2}$
- $\frac{\ln 2}{\ln 2 - 2\ln 3}$
- $\frac{\ln 3}{\ln 2 - 2\ln 3}$
- $\frac{\ln 3}{2\ln 3 - \ln 2}$



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الطريقة الاولى:

① $\ln 2^{x} = \ln 3^{2x-1}$

② $x\ln 2 = 2x(\ln 3) - \ln 3$

③ $x\ln 2 - 2x(\ln 3) = -\ln 3$

④ $x(\ln 2 - 2\ln 3) = -\ln 3$

⑤ $x = \dfrac{-\ln 3}{\ln 2 - 2\ln 3}$

⑥ السالب على سالب

$$\frac{-(\ln 3)}{-(2\ln 3 - \ln 2)} = \boxed{\frac{\ln 3}{2\ln 3 - \ln 2}}$$

الطريقة الثانية: بالتجريب

نفرض كم x بأحد الخيارات

MKCL OES

Math_F

Total questions in exam: 40 | Answered: 0

Question No. 3

The solution set of $-2 \leq 3 - 5x \leq 18$ is

- $(-\infty, 1)$
- $(-3, \infty)$
- $(-3, 1)$
- $[-3, 1]$

$-2 \leq 3 - 5x \leq 18$

$-3 \quad -3 \quad -3$

$\frac{-5}{-5} \leq \frac{-5x}{-5} \leq \frac{15}{-5}$

$1 \geq x \geq -3$

$[-3, 1]$ →

MKCL OES

Total questions in exam: **40** | Answered: **0**

Question No. 4

The solution set of the equation $-1+\log_8(3x+2)=-\frac{1}{3}$ is

- $\{\frac{3}{2}\}$
- $\{-\frac{1}{3}\}$
- $\{-\frac{2}{3}\}$
- $\{\frac{2}{3}\}$

D

الحل

الطريقة الجبرية:

$$-1 + \log_8(3x+2) = -\frac{1}{3}$$

$$\log_8(3x+2) = -\frac{1}{3} + 1$$

$$\log_8(3x+2) = \frac{2}{3}$$

$$3x+2 = 8^{\frac{2}{3}}$$

$$3x = 4 - 2$$

$$3x = 2$$

$$\boxed{x = \frac{2}{3}}$$

الطريقة الثانية:

بالتجريب

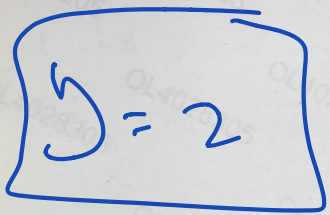
MKCL OES

Total questions in exam: 40 | Answered: 0

Question No. 5

The horizontal asymptote to the graph of $f(x) = 3^{x-1} + 2$.

- y = 2
- x = -2
- y = 3
- y = -2



Total questions in exam: 40 | Answered: 0

Question No. 6

Simplify $\left(x^{\frac{1}{2}}-3\right)\left(x^{\frac{1}{2}}+3\right)$

- $x-9$
- $x+9$
- $x-3$
- $x+3$

$\left(x^{\frac{1}{2}}\right)^2 - 3^2$

$x - 9$

A

MKCL OES

Total questions in exam: **40** | Answered: **0**

Question No. 7

The degree of the polynomial $5x^2+3x-52$ is

- 5
- 3
- 2
- 52

اعلی درجہ

C

Total questions in exam: **40** | Answered: **0**

Question No. 8

Evaluate $\lim_{x \to -1} \frac{3x^4 + x + 1}{x + 4} =$

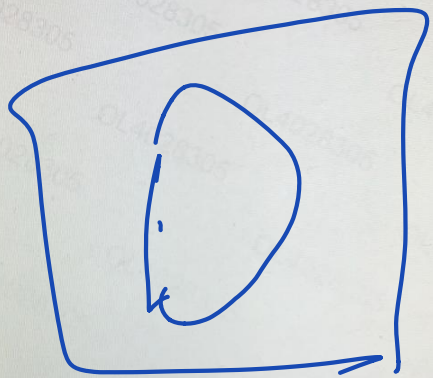
- -4
- 3
- 1
- 0

بالتعويض

Question No. 9

If $f(x)$ is a polynomial such that $f(5) = -7$ then the remainder of the $f(x) \div (x-5)$ equals:

- 5
- -5
- 7
- -7



Total questions in exam: **40** | Answered: **0**

Question No. 10

Evaluate $\lim_{x\to\infty}\left(x^3+x-3\right)=$

- 0
- 3
- -3
- ∞

* نشوف اعلى درجة = x^3

* اعوض مكان x بـ (∞) = $(\infty)^3$

يكون = ∞ → D

Question No. 11

Factor : $5x^2 - tx^2 - 5z + tz$

- $(x^2 - z)(5 - t)$
- $(x^2 - z)(5 + t)$
- $(x^2 + z)(5 + t)$
- $(x^2 + z)(5 - t)$

$x^2(5-t) - z(5-t$

$(x^2 - z)(5 - t)$

A

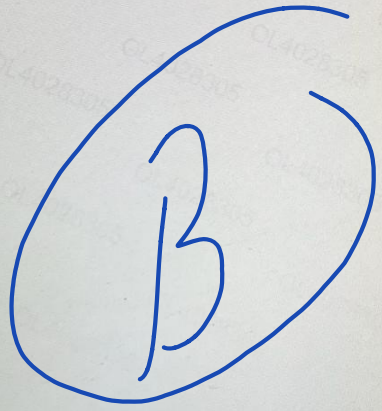
Total questions in exam: 40 | Answered: 0

Question No. 12

Let a be an integer. Give all values of a such that the function F is a one-to-one function.

$$F = \{(7,-1),(5,1-a),(0,5),(-2,a),(1,3)\}$$

- $a \in \mathbb{R}\backslash\{-1,5,3,2\}$
- $a \in \mathbb{R}\backslash\{-1,5,3,2,-4,-2\}$
- $a \in \mathbb{R}\backslash\{5,3,2\}$
- $a \in \{1,5,-2\}$



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Question No. 13

Use the square root property to solve this quadratic equation

$$x^2 + 20 = 4$$

- $\pm 4i$
- $\sqrt{16}$
- -4
- $\pm\sqrt{24}$

$x^2 = 4 - 20$

$x^2 = -16$

$x = \pm 4i$

A

Save & Next حفظ والتالي

Question No. 14

Evaluate $\lim_{x \to -\infty} \frac{x^4+2x^2-1}{x^3-2x-2} =$

- -1
- 0
- $-\infty$
- 1

Save & Next حفظ والتالي

* درجة البسط اعلى من المقام ؟ = $-\infty$

C

Question No. 15

The graph of $f(x) = -3x^2 + x + 4$ is

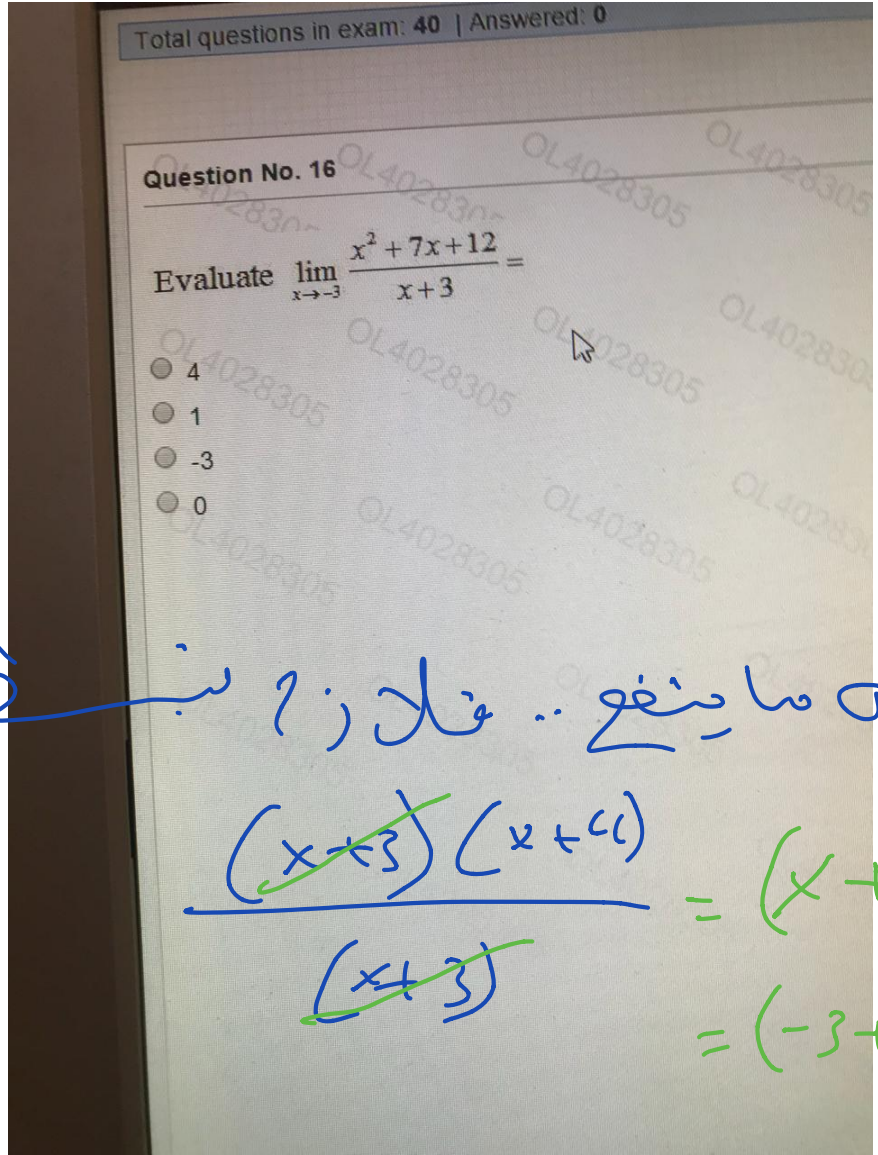
- Open left
- Open right
- Open down
- Open up

* بما انه الـ (a) سالب

فيكون الجواب

(c)

Save & Next حفظ والتالي


Total questions in exam: 40 | Answered: 0
Question No. 16
Evaluate $\lim_{x\to -3} \frac{x^2+7x+12}{x+3} =$
4
1
-3
0
× التعويض ما ينفع .. فلازم نبسط
$\frac{(x+3)(x+4)}{(x+3)} = (x+4)$
$= (-3+4) = 1$

Total questions in exam: 40 | Answered: 0

Question No. 17

The domain of the function $f(x) = e^{x^2-3x+1} - 2$ is:

- $\mathbb{R}$
- $(0, \infty)$
- $(-1, \infty)$
- $(-\infty, 0)$

* دائما مجال الدالة الاسية

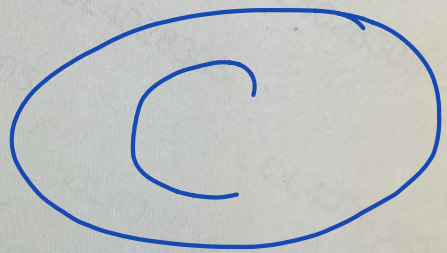
$(-\infty, +\infty)$

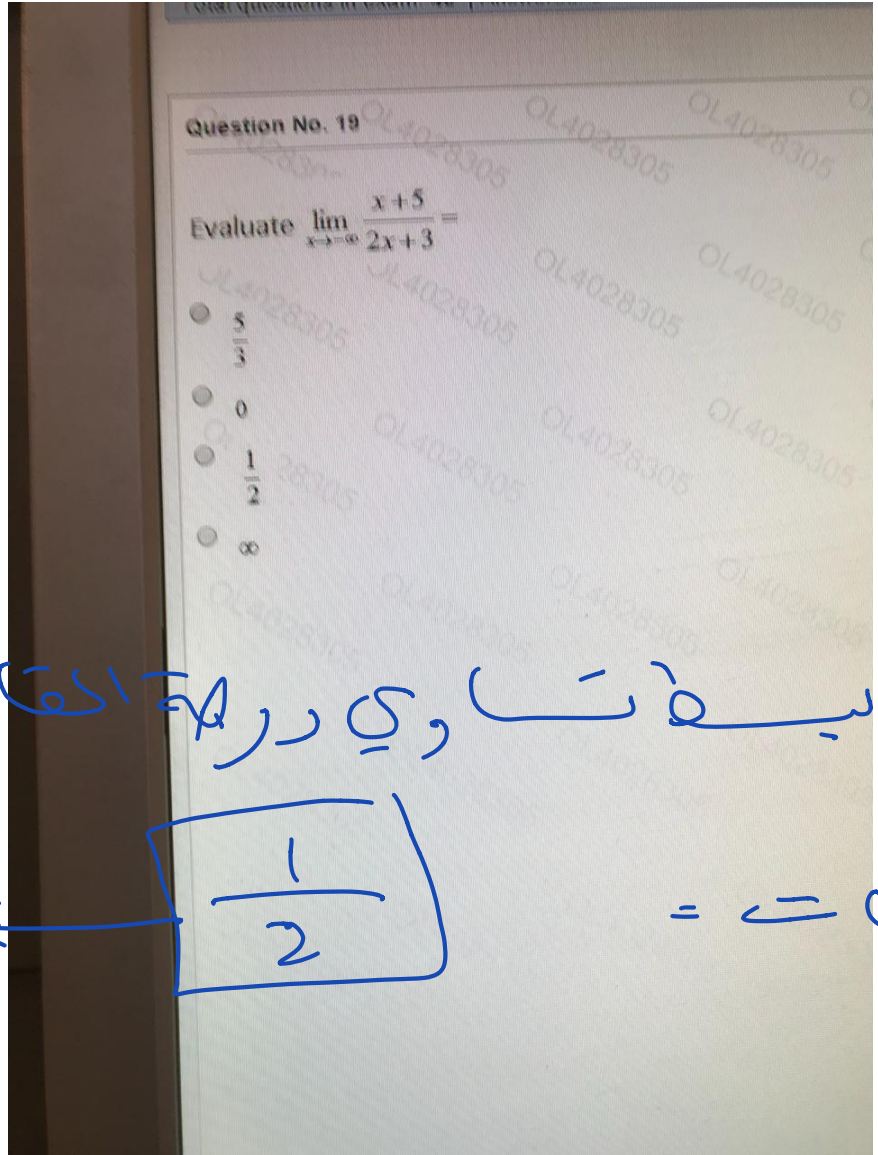
A

Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

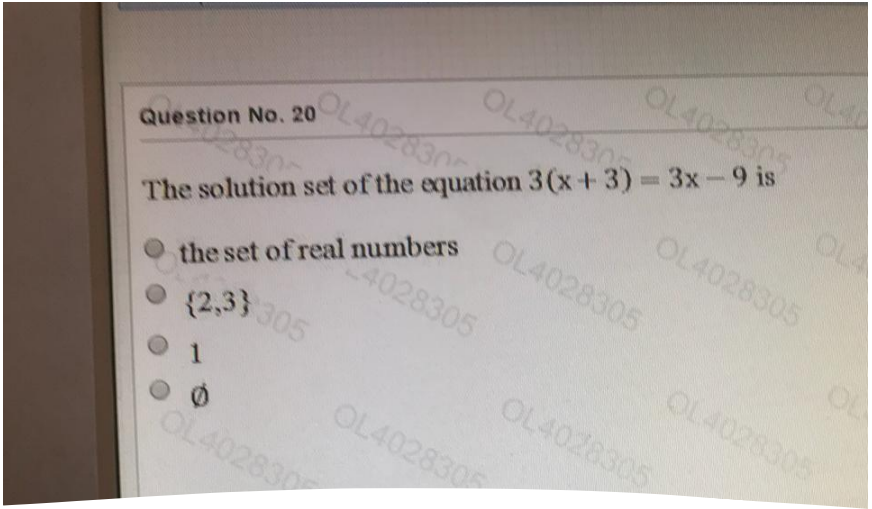




* درجة البسط تساوي درجة المقام

نقسم المعاملات =

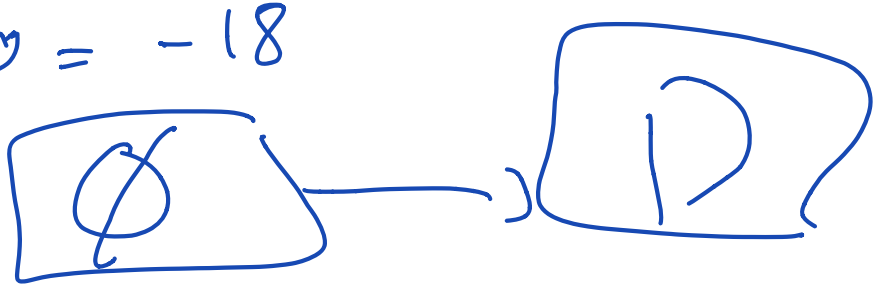
$\frac{1}{2}$ ← C



$3x + 9 = 3x - 9$

$3x - 3x = -9 - 9$

$0 = -18$



MACL QES

Math_PT_

Total questions in exam: 40 | Answered: 0

Question No. 21

Let U = {0,1,2,3,4,5,6,7,9}, and A = {1,3,5,7} the complement of A is

- {1,3,5,7}
- {0,2,4,6,9}
- ∅
- {1,2,3,4,5,6,7}

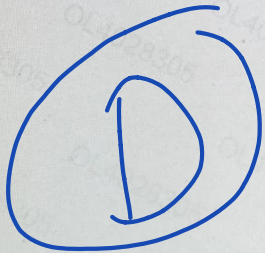
$A' = \{0, 2, 4, 6, \}$

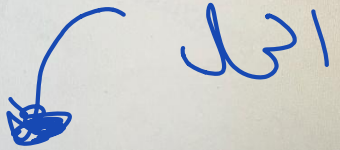
Total questions in exam: 40 | Answered: 0

Question No. 22

The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if

- k=-1
- k=1
- k=0
- k=2





let x be = ①

① $\lim_{x \to 1} f(x) = f(1)$

$\lim_{x \to 1} f(x) =$ ①

② نشوف النهاية من اليمين = النهاية من اليسار

$\lim_{x \to 1^-} f(x) =$ ① , $\lim_{x \to 1^+} f(x) =$ k − 1

③ نساوي بعض عشان نطلع قيمة k

k − 1 = 1

k = 1 + 1

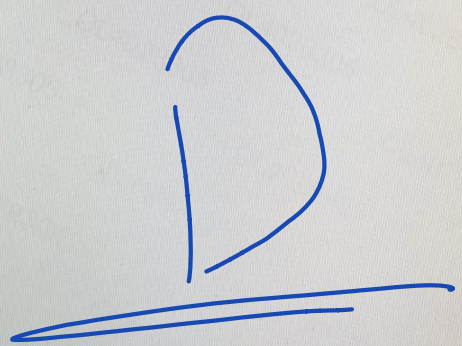
k = 2

Total questions in exam: 40 | Answered: 0

Question No. 23

Evaluate $\lim_{x \to -3} \frac{|x+3|}{x+3}$

- 0
- 2
- 1
- Does not exist

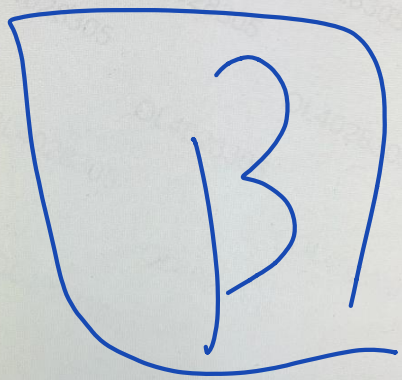


Total questions in exam: **40** | Answered: **0**

Question No. 24

If x-2 is a factor of the polynomial f(x) then

- $f(-2) = 0$
- $f(2) = 0$
- $f(0) = -2$
- $f(0) = 2$



Total questions in exam: 40 | Answered: 0

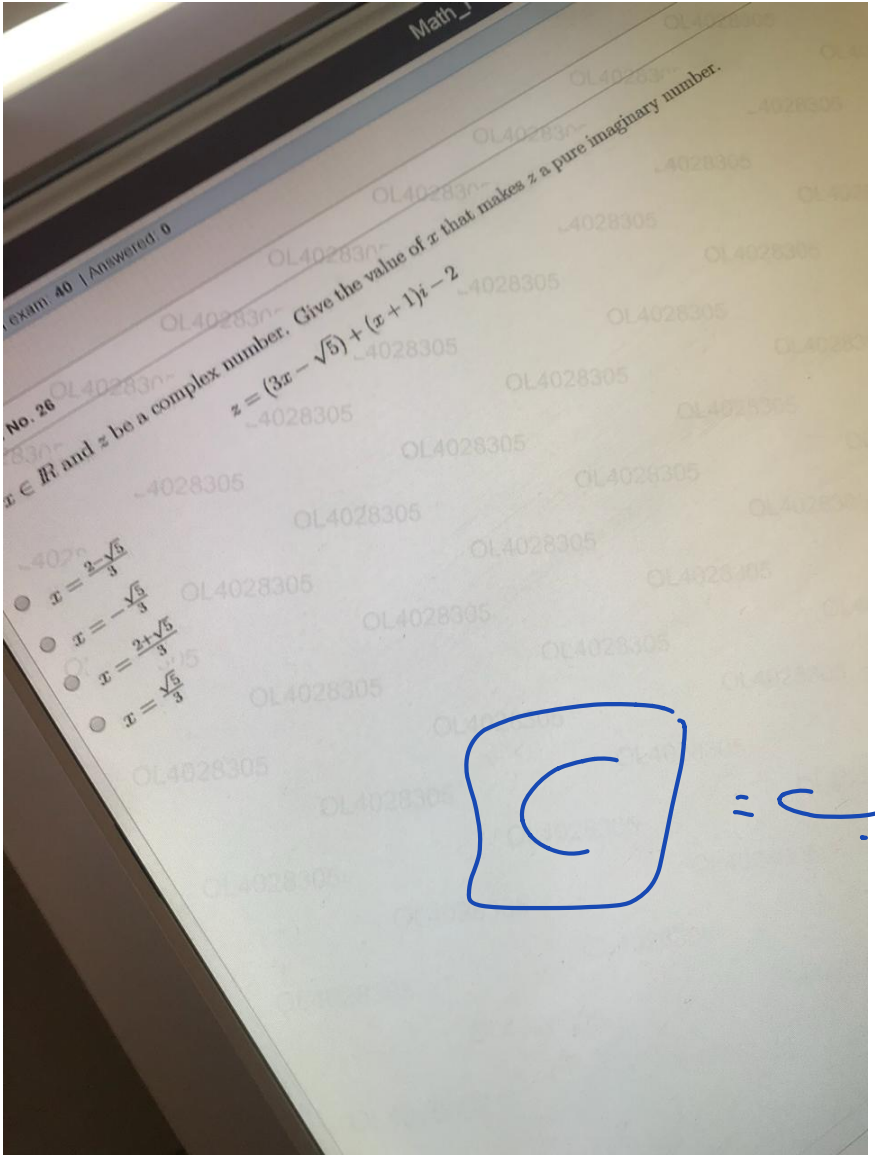
Question No. 25

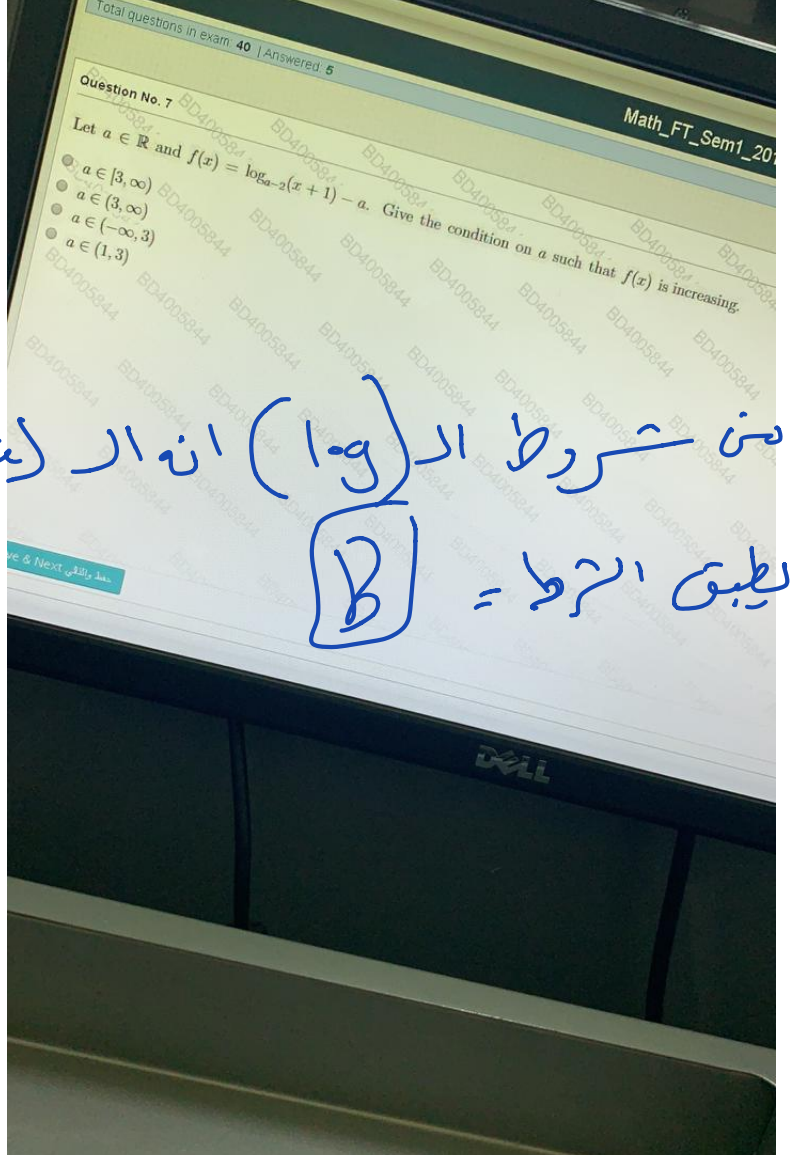
Given that $f(x) = \log_{\frac{1}{2}}(x+2)$, then $f(2) =$

- $\frac{1}{4}$
- $\frac{1}{2}$
- 2
- -2

* بالتعويض عن x بـ (2)

$\log_{\frac{1}{2}}(4) = \boxed{-2}$


Math_
Exam 40 | Answered: 0
No. 26
$x \in \mathbb{R}$ and z be a complex number. Give the value of x that makes z a pure imaginary number.
$z = (3x - \sqrt{5}) + (x+1)i - 2$
$x = \frac{2-\sqrt{5}}{3}$
$x = -\frac{\sqrt{5}}{3}$
$x = \frac{2+\sqrt{5}}{3}$
$x = \frac{\sqrt{5}}{3}$
C
بالتجريب =



* من شروط الـ (log) انه الـ (a) :

(1) $a > 0$

(2) $a \neq 1$

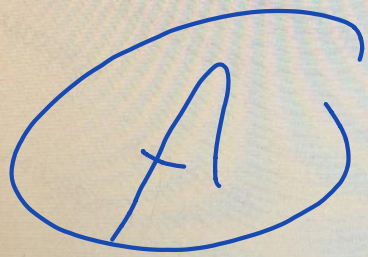
اي يطبق الشرط = B

Total questions in exam: 40 | Answe

Question No. 7

The horizontal asymptote to the graph of $f(x) = 2^x - 3$.

- y = -3
- x = -2
- y = 3
- x = 2



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MKCL OES
Online Evaluation System

Total questions in exam: **40** | Answered: **1**

Question No. 2

If $x \in \mathrm{N}$, then the value of i^{4x-1} is

- -1
- 1
- $-i$
- i

$i^{4(1)-1} = i^3 = -i$

$i^{4(2)-1} = i^7 = -i$

$i^{4(3)-1} = i^{11} = -i$

C

Question No. 1

Perform the indicated operations $a\,b(a^{-1}-b^{-1})$,where $a \neq 0$, $b \neq 0$

- $b-a$
- $\frac{1}{b}-\frac{1}{a}$
- 0
- $a-b$

$$ab\left(\frac{1}{a}-\frac{1}{b}\right)$$

$$\frac{ab}{a}-\frac{ab}{b}=\boxed{b-a}$$

A

Save & Next

Question No. 5

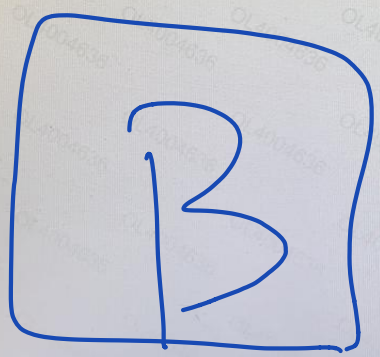
If $f(x) = 1 - \sqrt{x+2}$, then the domain of $f^{-1}(x)$ is

- $[1, \infty)$
- $[-2, \infty)$
- $(-\infty, \infty)$
- $(-\infty, 1]$

Question No. 18

Which of the following is a pair of inverse functions?

- $f(x) = 2x - 1$, *where* $x \in \mathbb{R}$, and $g(x) = x + \frac{1}{2}$, *where* $x \in \mathbb{R}$.
- $f(x) = \sqrt{3+x}$, *where* $x \in [-3, \infty)$, and $g(x) = x^2 - 3$, *where* $x \in [0, \infty)$.
- $f(x) = x$, *where* $x \in \mathbb{R}$, and $g(x) = -x$, *where* $x \in \mathbb{R}$.
- $f(x) = \sqrt{3+x}$, *where* $x \in [-3, \infty)$, and $g(x) = x^2 + 3$, *where* $x \in [0, \infty)$.



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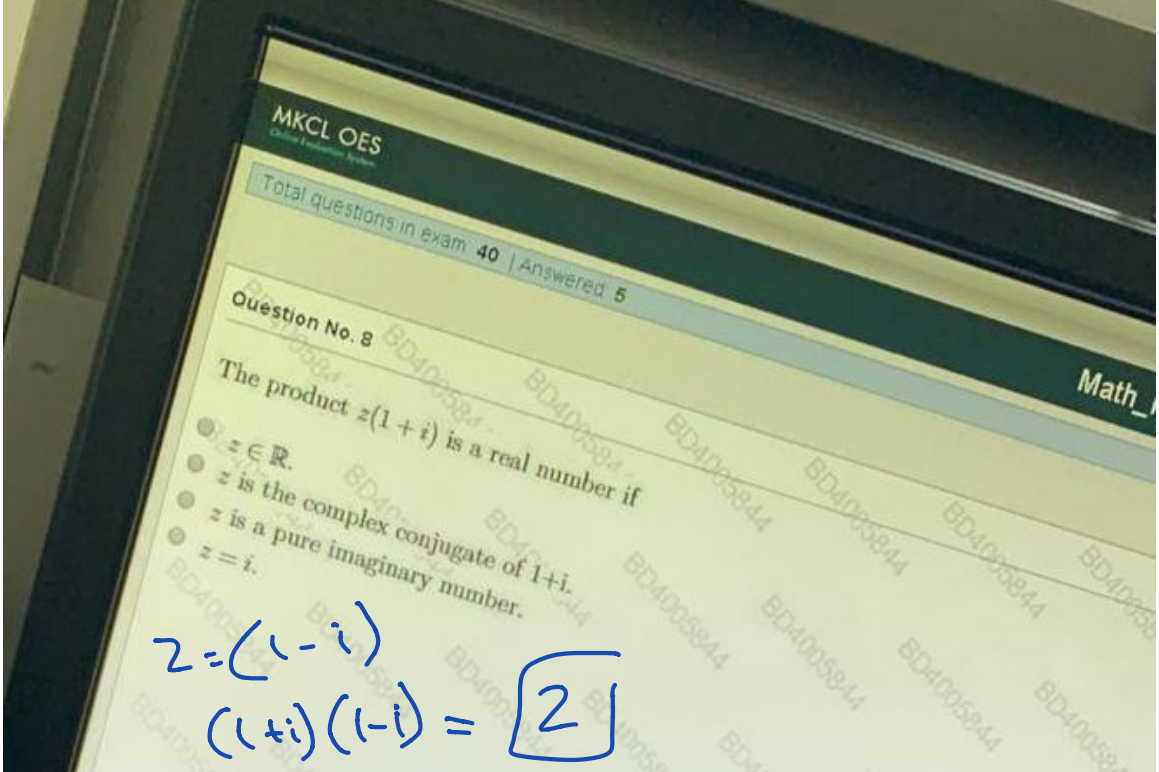

MKCL OES
Total questions in exam 40 | Answered 5
Question No. 8
The product $z(1+i)$ is a real number if
$z \in \mathbb{R}$.
z is the complex conjugate of 1+i.
z is a pure imaginary number.
$z = i$.
$z=(1-i)$
$(1+i)(1-i) = 2$

MKCL OES

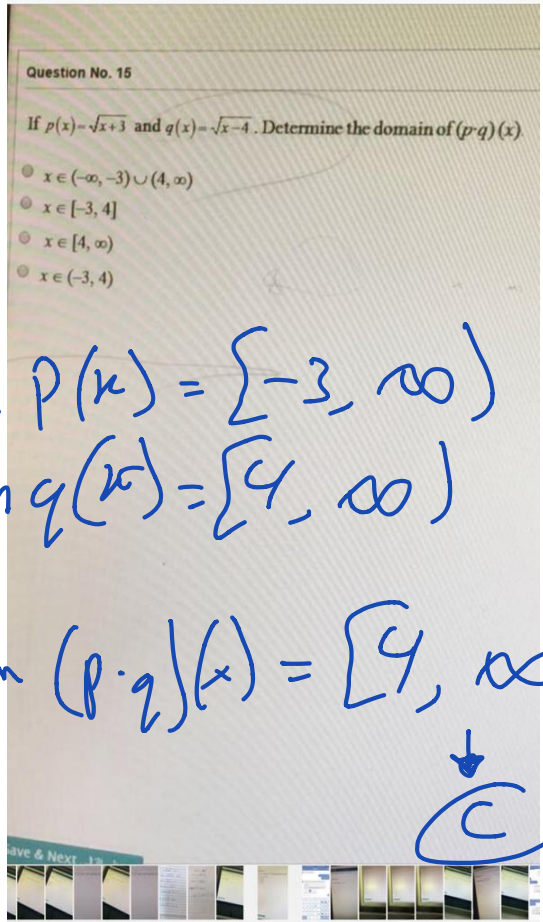
Total questions in exam: 40 | Answered: 0

Question No. 5

The horizontal asymptote to the graph of $f(x) = 3^{x-1} + 2$.

- y = 2
- x = -2
- y = 3
- y = -2

8:53 4G



Domain $p(x) = [-3, \infty)$

Domain $q(x) = [4, \infty)$

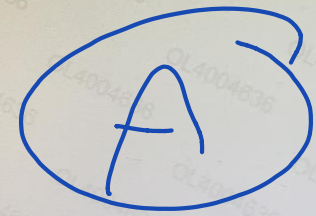
Domain $(p \cdot q)(x) = [4, \infty)$

C

Question No. 24

Let $x \in \mathbb{Z}$. Simplify the following expression $a = 3i^{132x^2+4x-3}$

- $a = 3i$
- $a = -3i$
- $a = -3$
- $a = 3$



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لأنه حاصل ضرب العدد المركب X مرافقه = عدد حقيقي

$X \in \mathbb{Z}$

↓ integer

$$a = 3i^{132x^2+4x-3}$$

$$a = 3\left(i^{132x^2} \cdot i^{4x} \cdot i^{-3}\right)$$

(الأس يقبل القسمة على ٤) ، (الأس يقبل القسمة على ٤ = 1)

$$= 1 \cdot 1 \cdot i^{-3} = \frac{1}{i^3} = \frac{1}{-i} = +i$$

$$\boxed{a = 3i}$$

(A)

د. هبة الله يسعده

PALM

MKCL OES
Online Evaluation System

Total questions in exam: **40** | Answered: **3**

Question No. 4

The supplement of the angle 45° is:

- 45°
- 60°
- 80°
- 135°

$45 + x = 180$

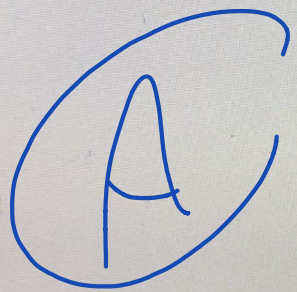
$x = 180 - 45$

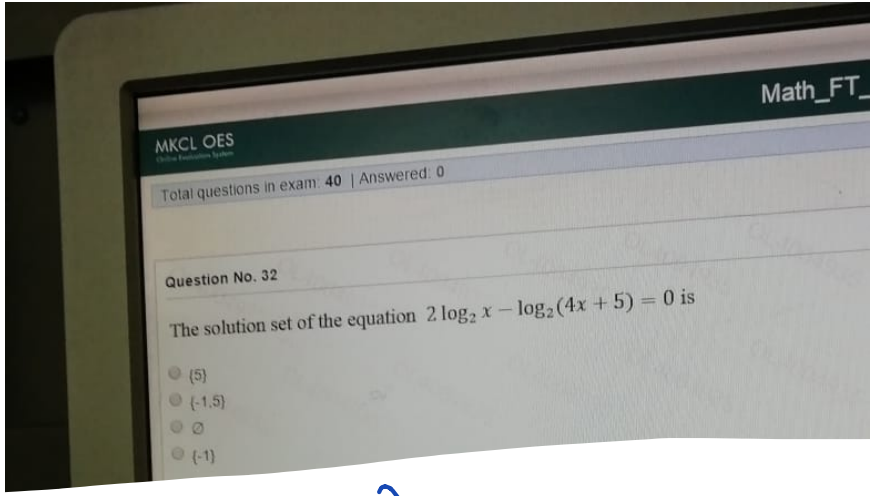
$x = 135^\circ$ → (D)

Question No. 8

The expression xyz can be classified as a

- monomial
- binomial
- none of these
- trinomial





$$2\log_2 x - \log_2(4x+5) = 0$$

$$\log_2 \frac{x^2}{4x+5} = 0$$

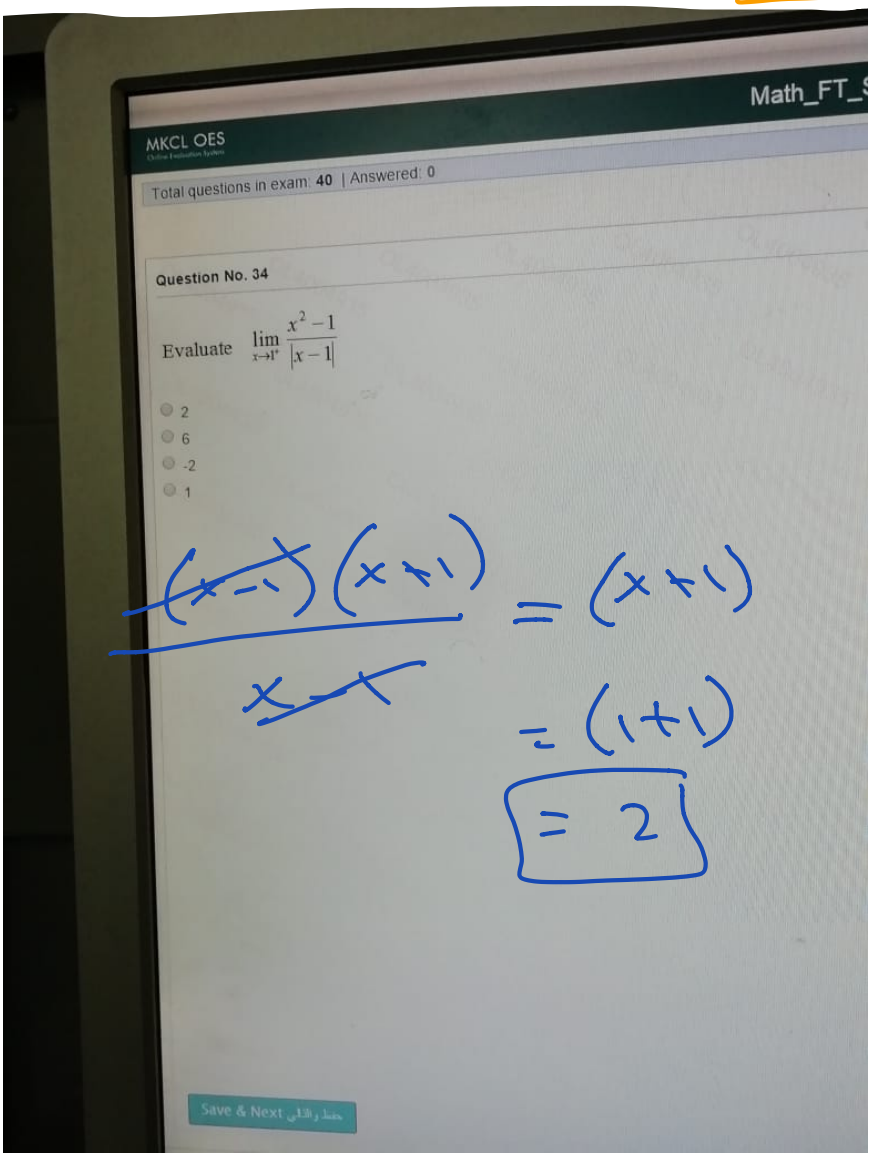
$$\frac{x^2}{4x+5} = 2^0$$

$$x^2 = 4x+5$$

$$x^2 - 4x - 5 = 0$$

$$x = 5, \; x = -1$$

لان لوغاريتم ما يجي منه عدد سالب (A)


MKCL OES
Math_FT_
Total questions in exam: 40 | Answered: 0
Question No. 34
Evaluate $\lim_{x \to 1^+} \frac{x^2-1}{|x-1|}$
2
6
-2
1
$\frac{(x-1)(x+1)}{x-1} = (x+1)$
$= (1+1)$
$= 2$
Save & Next

Math_FT_

MKCL OES

Online Evaluation System

Total questions in exam: **40** | Answered: 0

Question No. 40

The graph of $f(x) = 3^x$ is

- Increasing
- Constant
- Decreasing and Increasing
- Decreasing

A

Save & Next حفظ والتالي

MKCL OES

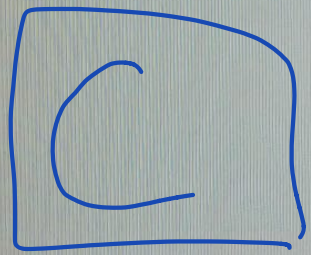
Math_FT_

Total questions in exam: 40 | Answered: 0

Question No. 36

The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is

- $\{\frac{1}{2} - \frac{1}{6}a\}$
- $\{\frac{3}{2} - \frac{2}{7}a\}$
- $\{\frac{1}{3} - \frac{4}{9}a\}$
- $\{3 + \frac{4}{9}a\}$



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$$(\sqrt{2})^{3-5x} = \left[(\sqrt{2})^{4}\right]^{a+x}$$

$$(\sqrt{2})^{3-5x} = (\sqrt{2})^{4a+4x}$$

$$3-5x = 4a+4x$$

$$-5x-4x = 4a-3$$

$$-9x = 4a-3$$

$$x = \frac{4a-3}{-9}$$

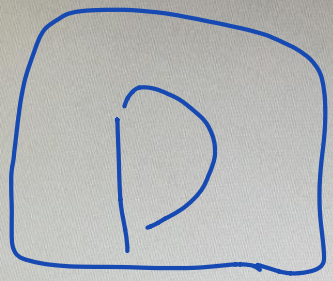
$$x = \frac{-3}{-9} + \frac{4a}{-9}$$

$$x = \frac{1}{3} - \frac{4a}{9}$$

Question No. 38

Evaluate $\lim_{x \to -\infty} (2x^4 + x - 1) =$

- 1
- 2
- 0
- ∞



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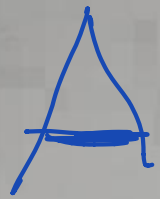
ns in exam: 40 | Answered: 5

Question No.

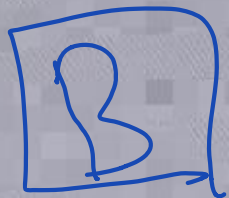
Suppose $a, b \in \mathbb{R}$ and $b > 0$. The solution of the inequality $0 < |x - a| < b$ is

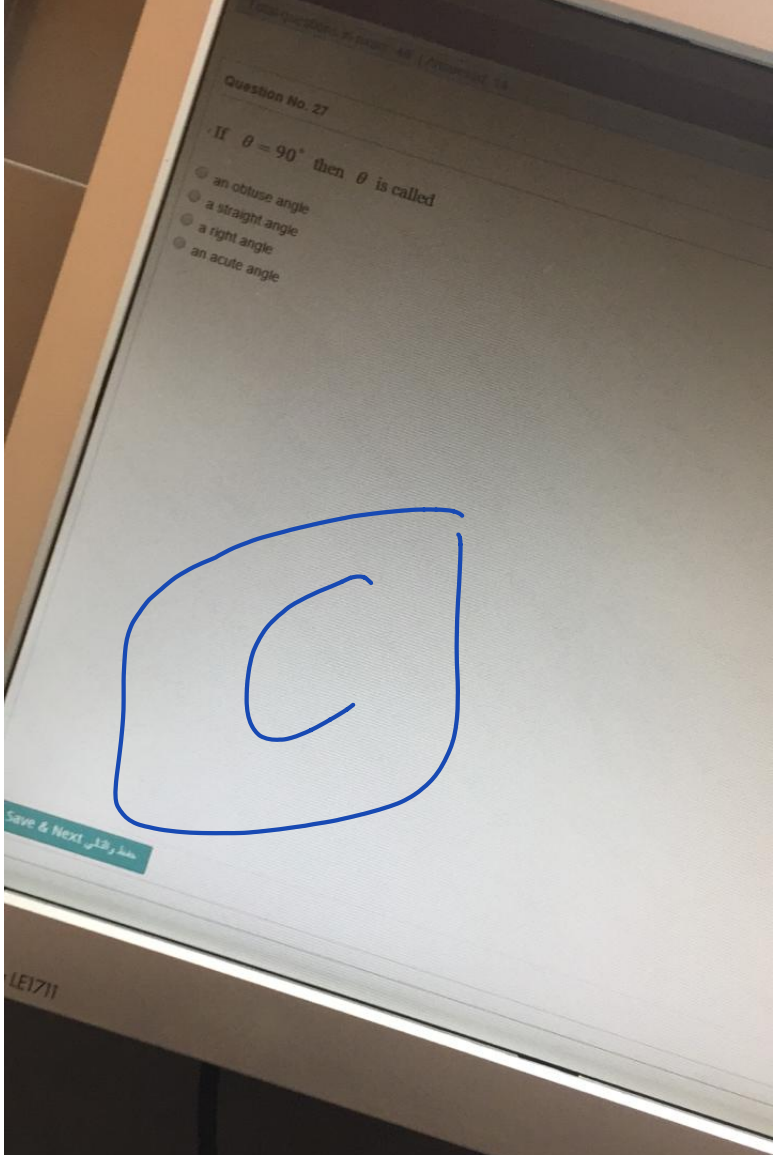
- $(a - b, a) \cup (a, a + b)$
- $(a - b, a) \cup (a, b)$
- $(-b, a) \cup (a, a + b)$
- $(a - b, a] \cup (a, b)$



Which of the following functions is not one-to-one

- $f(x) = x^3$
- $f(x) = -x^2$
- $f(x) = \sqrt{x}$
- $f(x) = -x$




Question No. 27
If $\theta = 90^\circ$ then θ is called
an obtuse angle
a straight angle
a right angle
an acute angle
C
Save & Next
LE1711

Question No. 37

Let $a > 1$. The solution set of the equation $\log_x(2x^2 - a^2) = 2$ is

- S = {a, 2a}
- S = {a}
- S = {−a}
- S = {−a, a}

$2x^2 - a^2 = x^2$

$2x^2 - x^2 = a^2$

$x^2 = a^2$

$x = a$ → A

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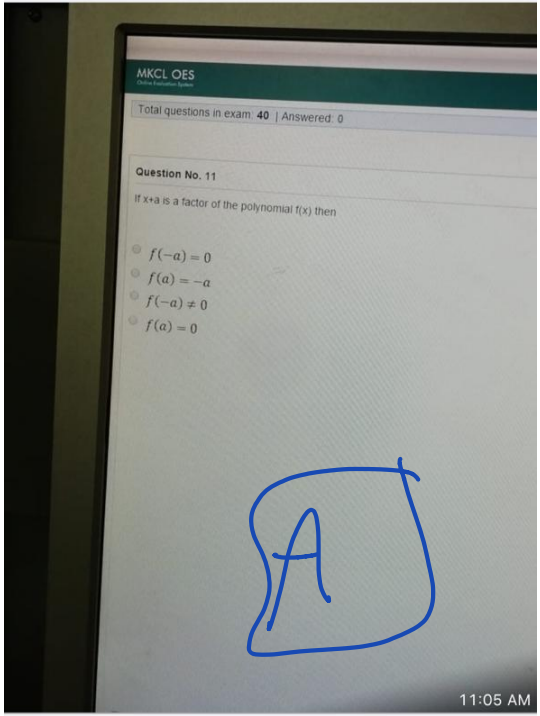

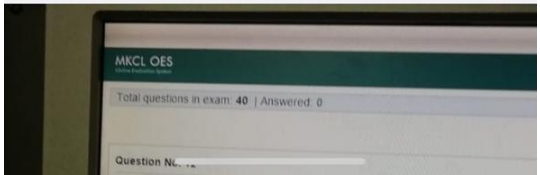

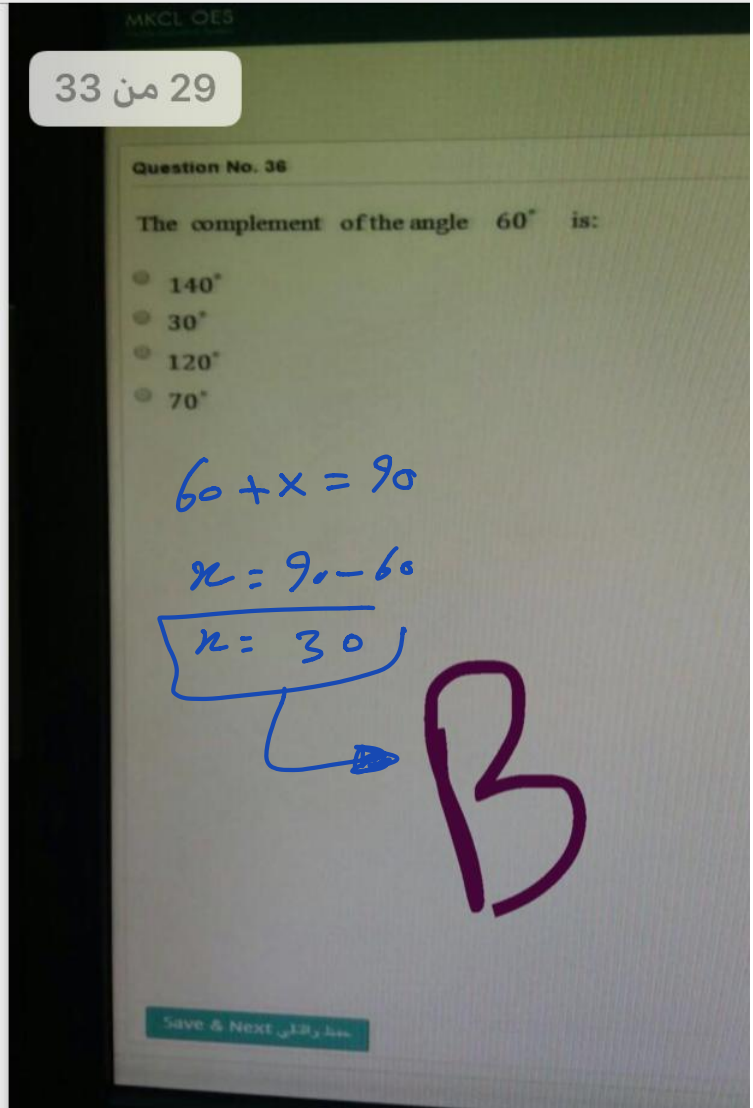
MKCL OES
29 من 33
Question No. 36
The complement of the angle 60° is:
140°
30°
120°
70°
60 + x = 90
x = 90 − 60
x = 30
B
Save & Next

MKCL OES

Total questions in exam: **40** | Answered: **10**

Question No. 39

The equation $y = \log_a x$ is equivalent to the equation

- $x = y^a$
- $x = a^y$
- $y = x^a$
- $y = a^x$

$\log_a x = y$

$a^y = x$ → (B)

MKCL OES

Math_FT

Total questions in exam: 40 | Answered: 38

Question No. 27

The range of the function $f(x) = 1 - \frac{3}{2+x}$ is

- $\mathbb{R} \setminus \{0\}$
- $\mathbb{R} \setminus \{3\}$
- $\mathbb{R} \setminus \{1\}$
- $\mathbb{R} \setminus \{-2\}$

$2 + x = 0$

$x = -2$ → D

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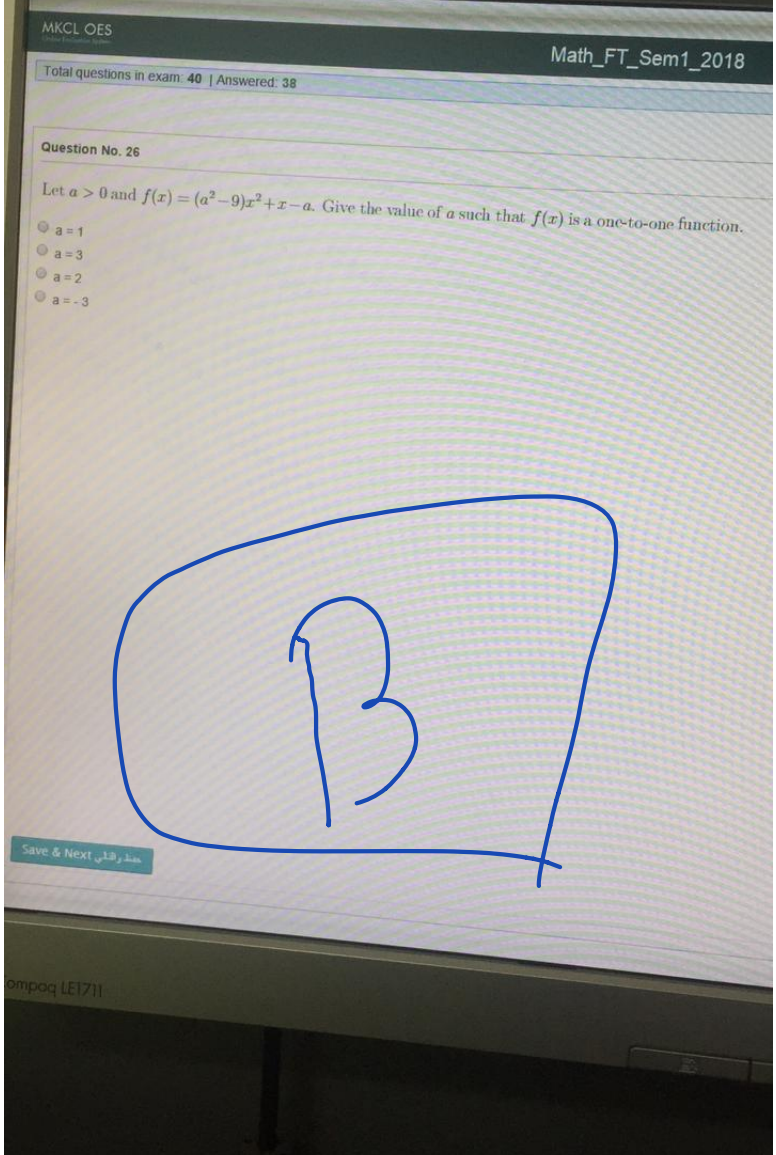
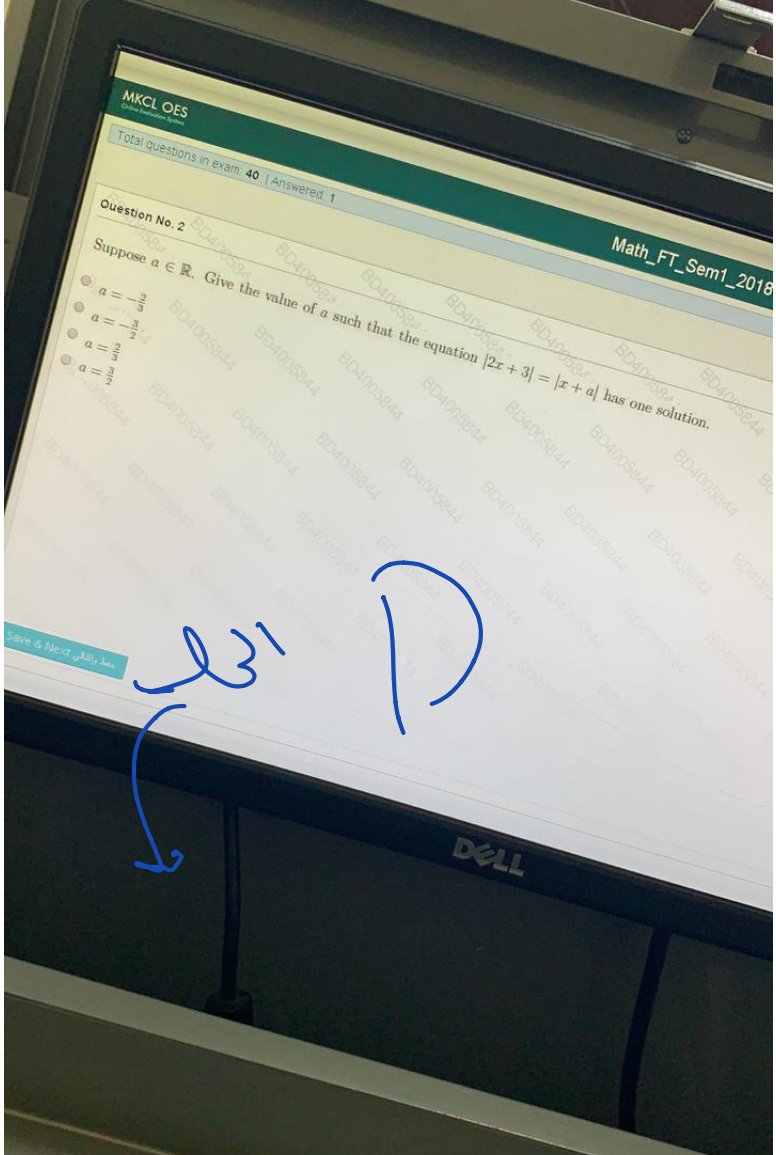

MKCL OES
Math_FT_Sem1_2018
Total questions in exam: 40 | Answered: 38
Question No. 26
Let $a > 0$ and $f(x) = (a^2-9)x^2+x-a$. Give the value of a such that $f(x)$ is a one-to-one function.
a = 1
a = 3
a = 2
a = - 3
B
Save & Next
ompaq LE1711

f(x) = -a^x


MKCL OES
Total questions in exam: 40 | Answered: 1
Question No. 2
Math_FT_Sem1_2018
Suppose $a \in \mathbb{R}$. Give the value of a such that the equation $|2x+3| = |x+a|$ has one solution.
$a = -\frac{3}{2}$
$a = -\frac{3}{4}$
$a = \frac{3}{4}$
$a = \frac{3}{2}$
Save & Next
DELL

$2x+3 = x+a$

$2x - x = a - 3$

$\boxed{x = a - 3}$

$2x+3 = -x-a$

$2x+x = -a-3$

$3x = -a-3$

$\boxed{x = \frac{-a-3}{3}}$

$a-3 = \frac{-a-3}{3}$

$3a-9 = -a-3$

$3a+a = -3+9$

$4a = 6$

$a = \frac{6}{a}$

$\boxed{a = \frac{3}{2}}$

Total questions in exam: 40 | Answered: 0

Question No. 6

Use the quadratic formula to solve this equation:

$$8x^2 = 6x - 1$$

- $x = \{4, \frac{1}{2}\}$
- $x = \{-\frac{1}{2}, \frac{1}{4}\}$
- $x = \{\frac{1}{2}, \frac{1}{4}\}$
- $x = \{2, \frac{1}{4}\}$

$-8x^2 6x - 1$

الحل صحيح

C

If $f(x)=x^3+2x^2-1$ then $f(a^4)=$

- a^7+2a^6-1
- $a+2a^{-1}-1$
- $a^{12}+2a^8-1$
- a^9-1

$$f(a^4)=(a^4)^3+2(a^4)^2-1$$

$$=a^{12}+2a^8-1$$

C

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The inverse of F = { (-3,3), (0,0), (4,2), (1,5) } is

- G = { (-3,-3), (0,0), (4,-2), (1,-5) }
- G = { (3,3), (0,0), (-4,2), (-1,5) }
- G = { (3,3), (0,0), (2,4), (1,5) }
- G = { (3,-3), (0,0), (2,4), (5,1) }

D

inverse of F : (y,x)

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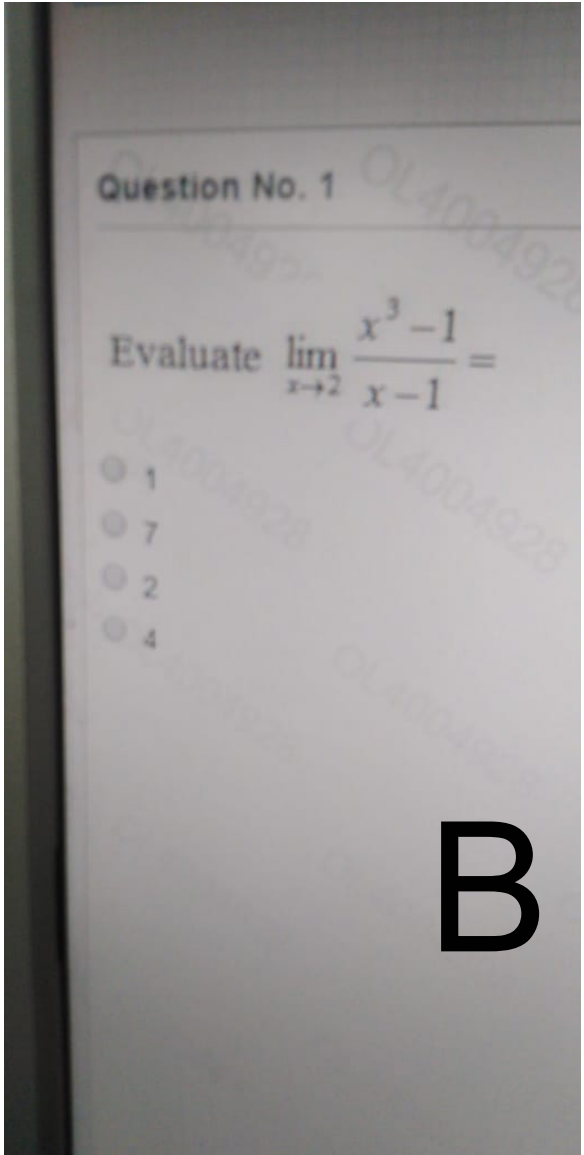
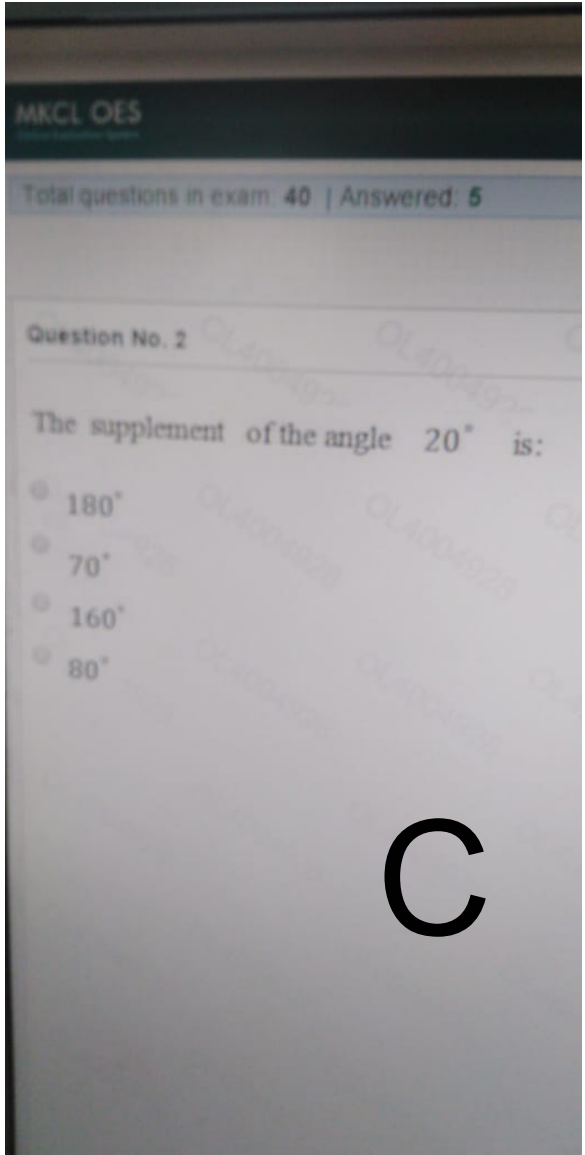


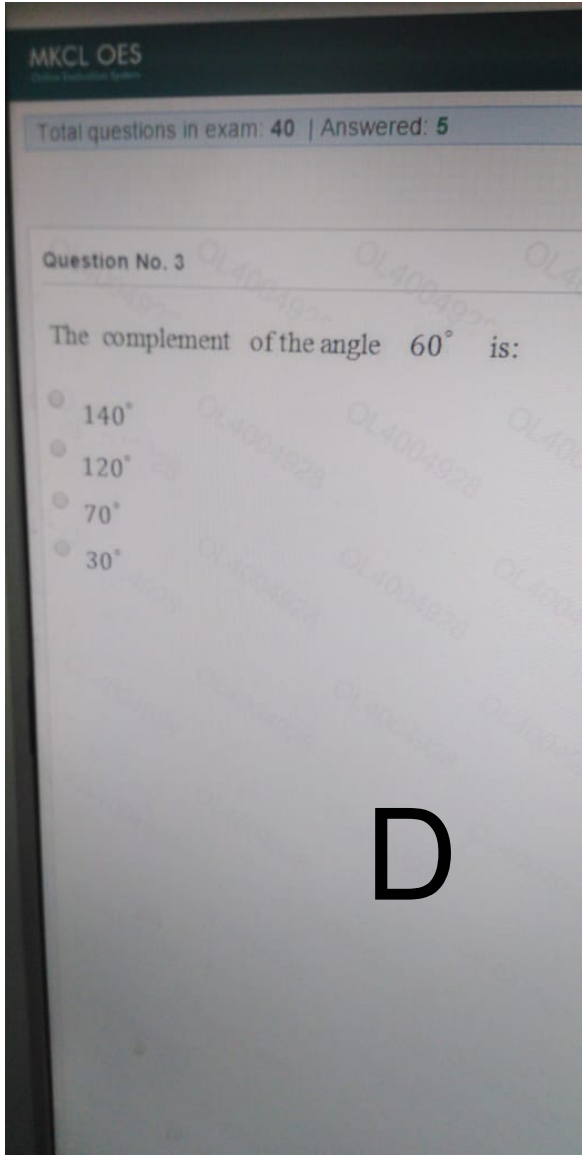
B

(2)^3 -1/(2-1)
8 - 1 / 1
7/1 = 7



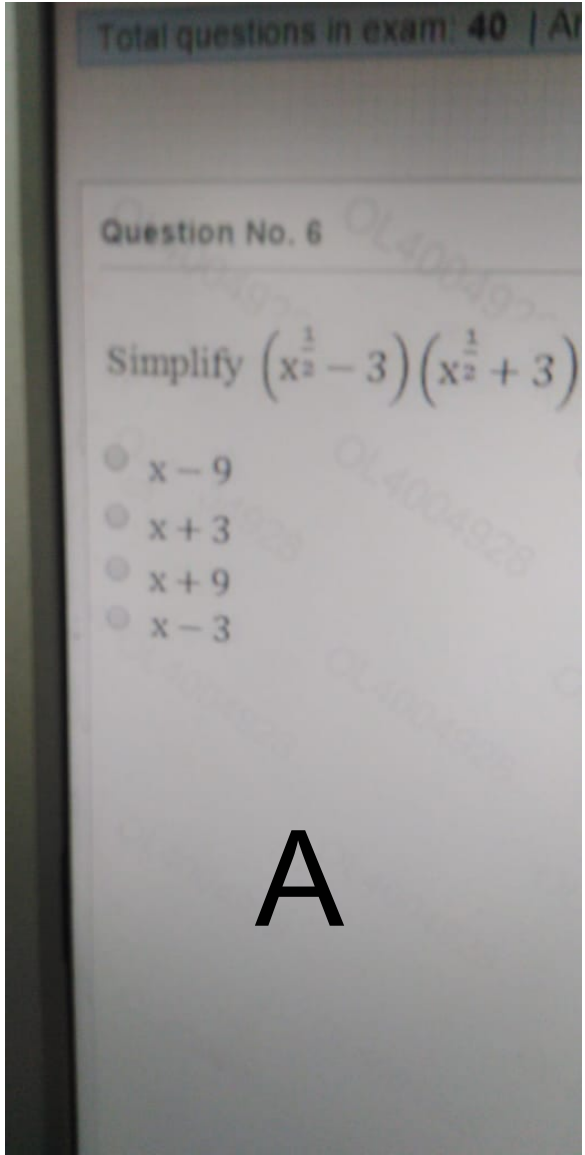
C

supplement=180
180 = 20 + x
180 - 20 = x
160 = x

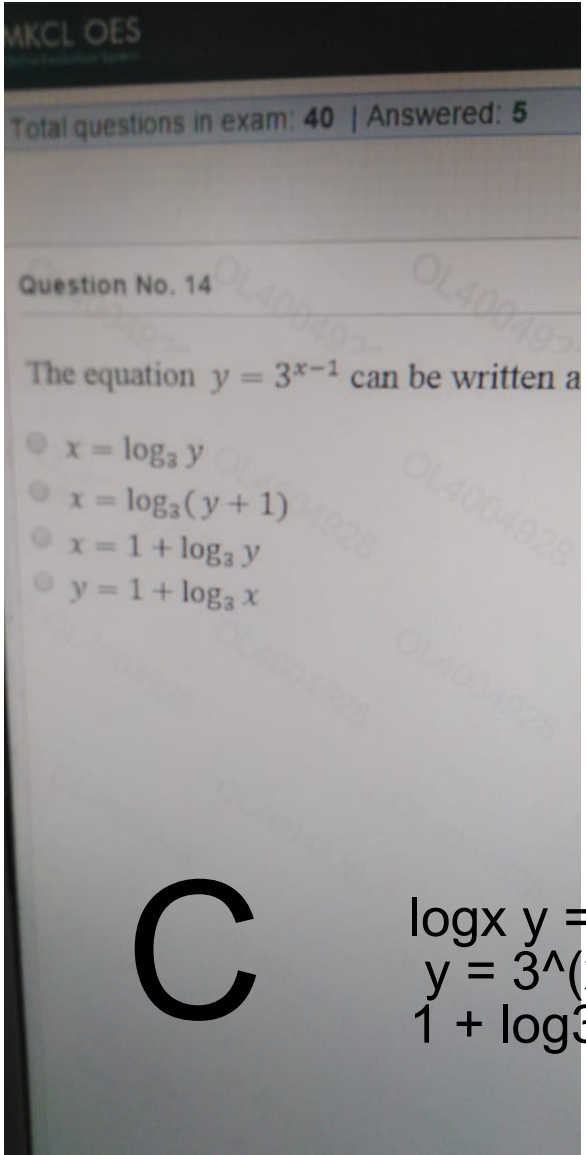


D

Complement = 90
90 = 60 + x
90 - 60 = x
x = 30



x^2 - y^2 = (x-y)(x+y)
(x^(1/2) -3)(x^(1/2)+3)
x^(1/2)^2 - 3^2
x^(1/2 x2) - 9
x - 9



C

logx y = z -> x^z = y
y = 3^(x-1) -> log3 y = x-1
1 + log3 y = x

MKCL OES

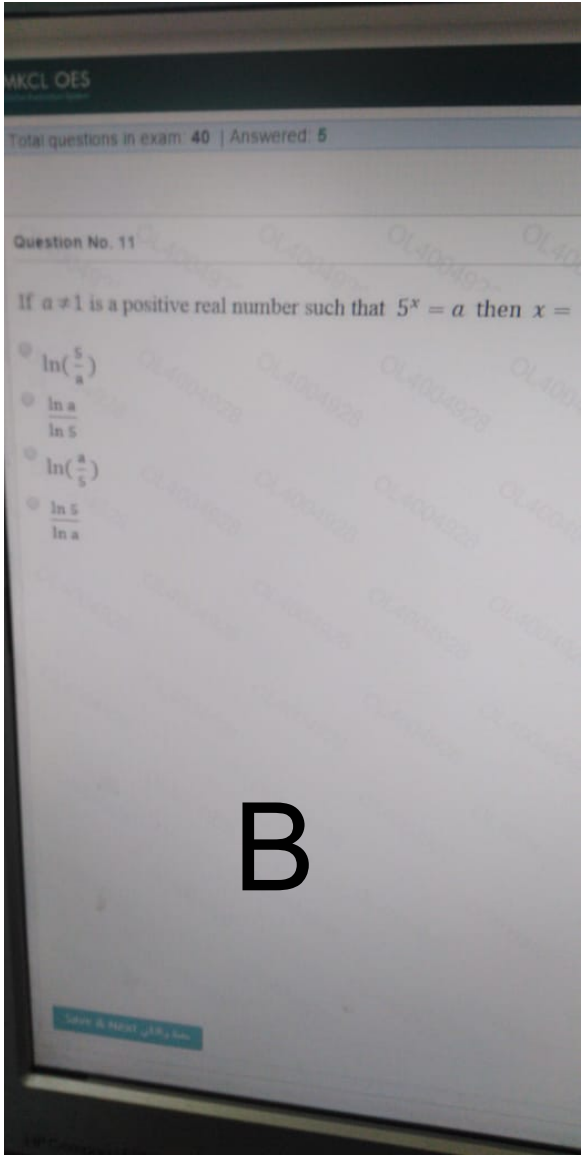
Total questions in exam: 40 | Answered:

Question No. 12

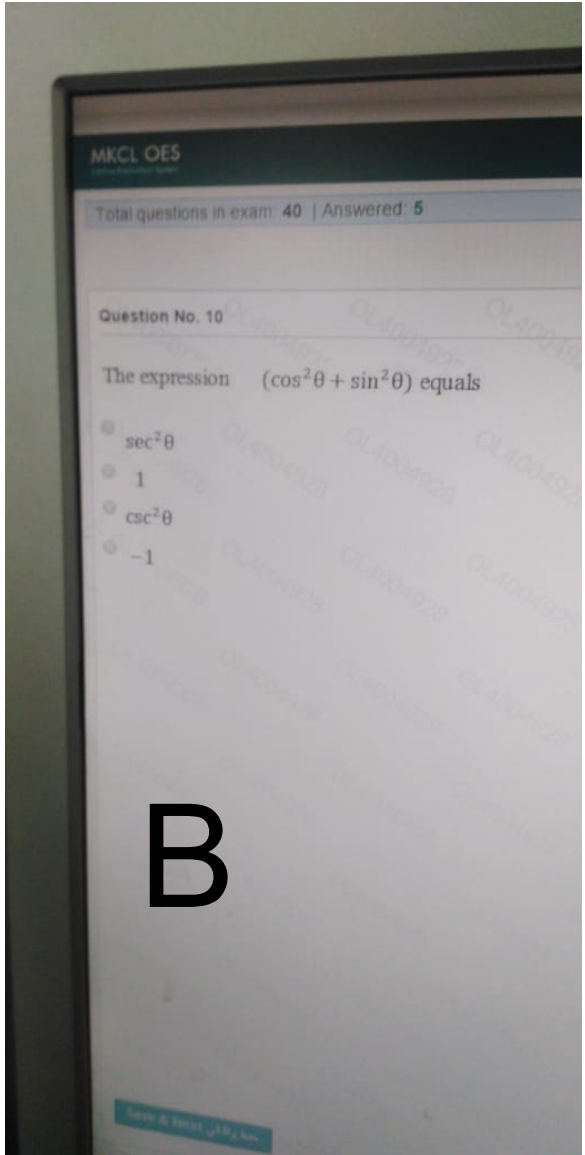
Evaluate $\lim_{x \to -\infty} \frac{x^4+2x^2-1}{x^3-2x-2} =$

- -1
- 1
- 0
- $-\infty$

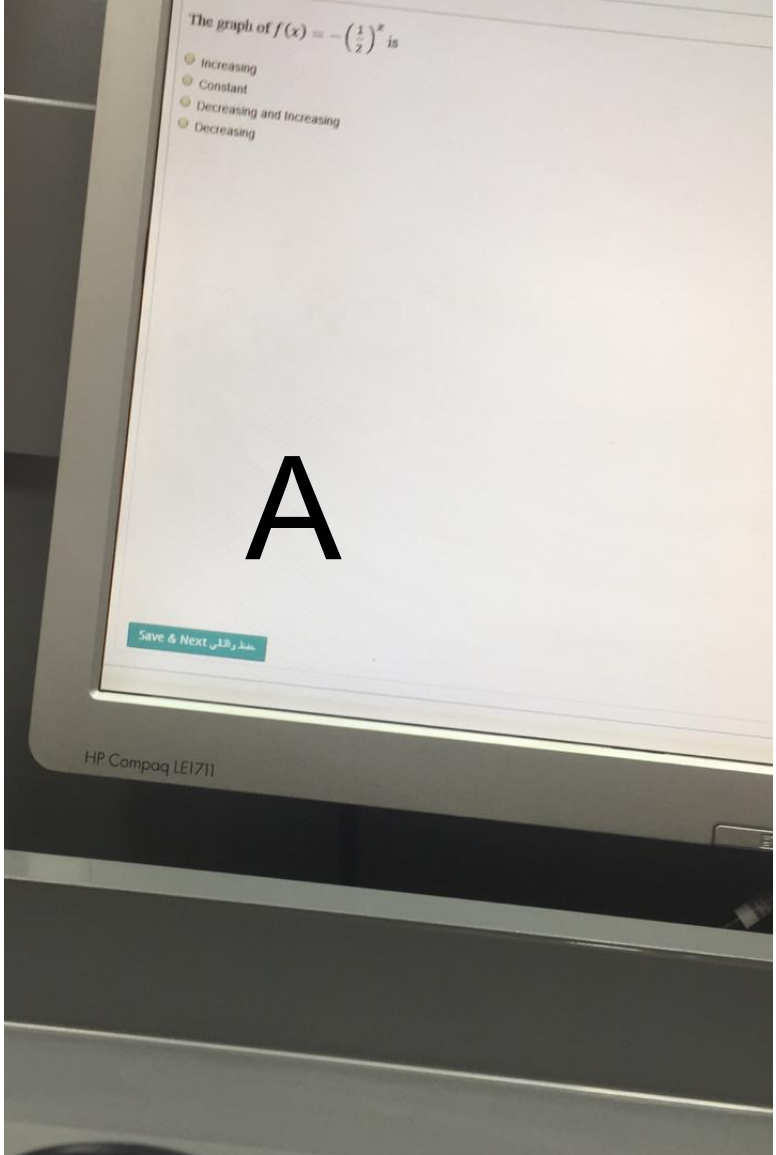
D



5^x = a
in 5^x = in a
x in 5 = in a
x = in a / in 5


MKCL OES
Total questions in exam: 40 | Answered: 5
Question No. 10
The expression $(\cos^2\theta + \sin^2\theta)$ equals
$\sec^2\theta$
1
$\csc^2\theta$
-1
B

sin^2 + cos^2 = 1



f(x) = -a^x
if 0 < a < 1
then it's increasing

f(x) = -a^x
if a > 1
then it's decreasing

Type text he

- x = -3
- x = -1
- y = -3
- y = -1

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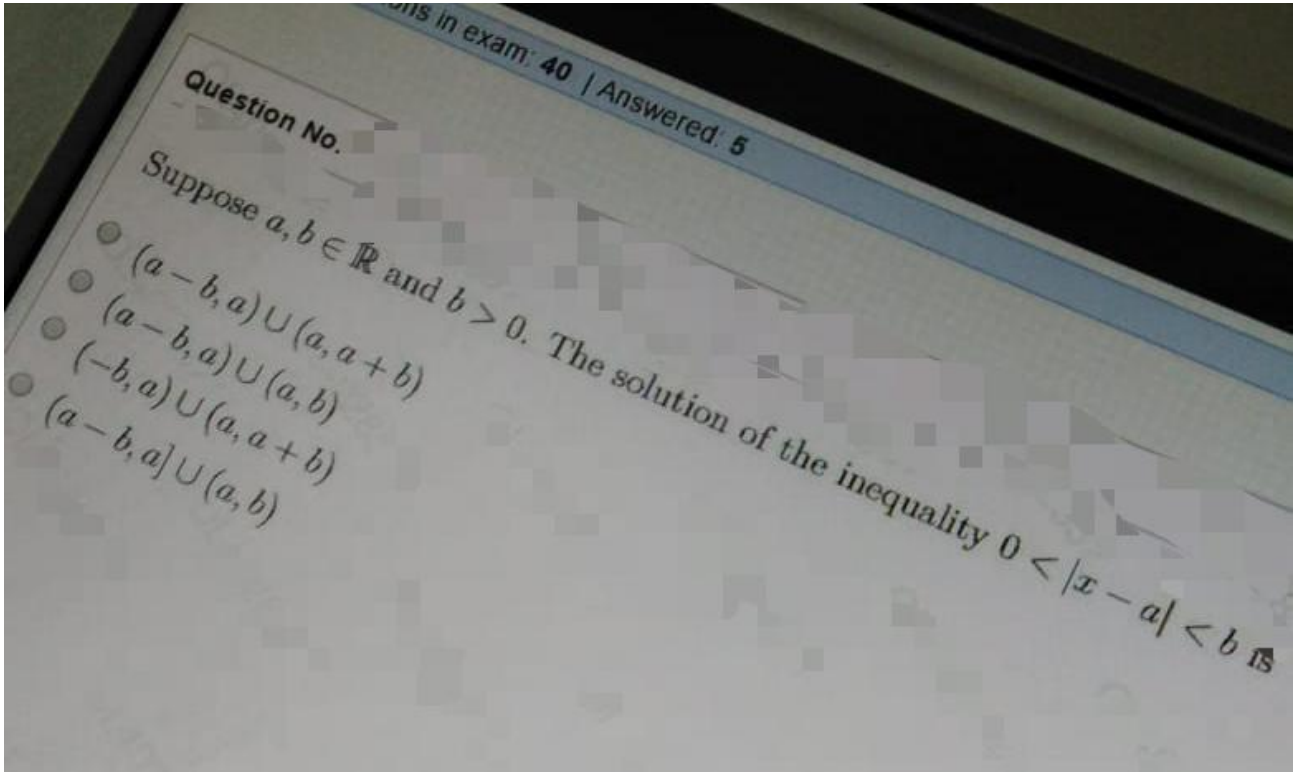
Question No. 1

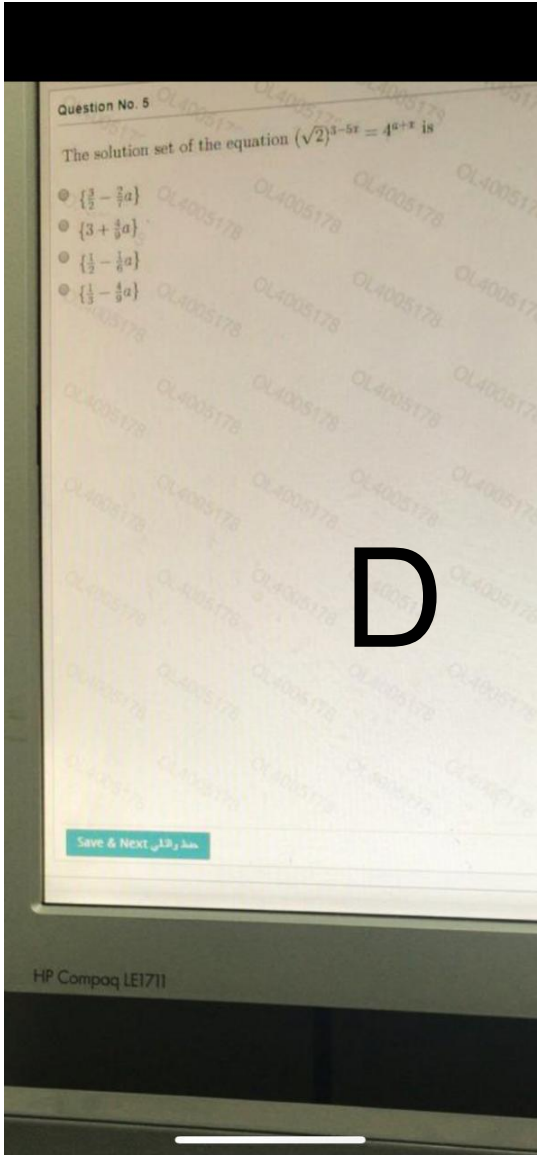
Evaluate $\lim_{x \to 2} \frac{x^3 - 1}{x - 1} =$

- 1
- 7
- 2
- 4

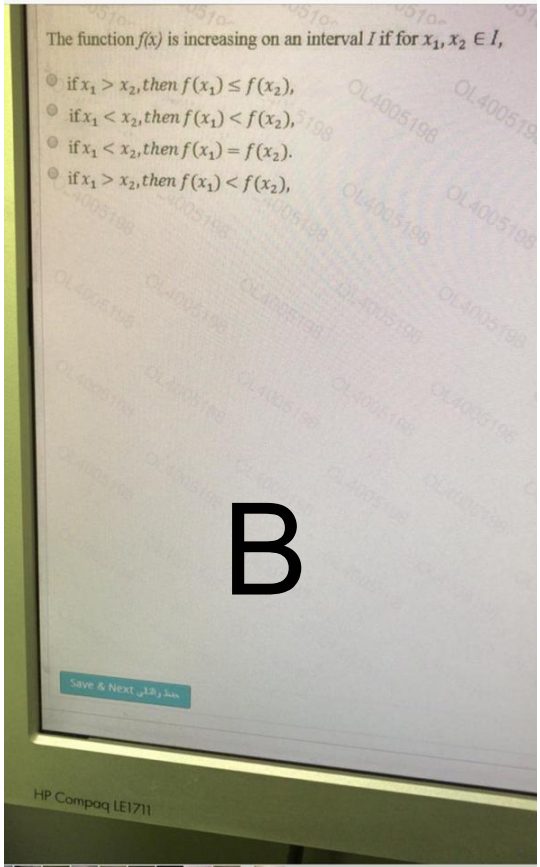
B

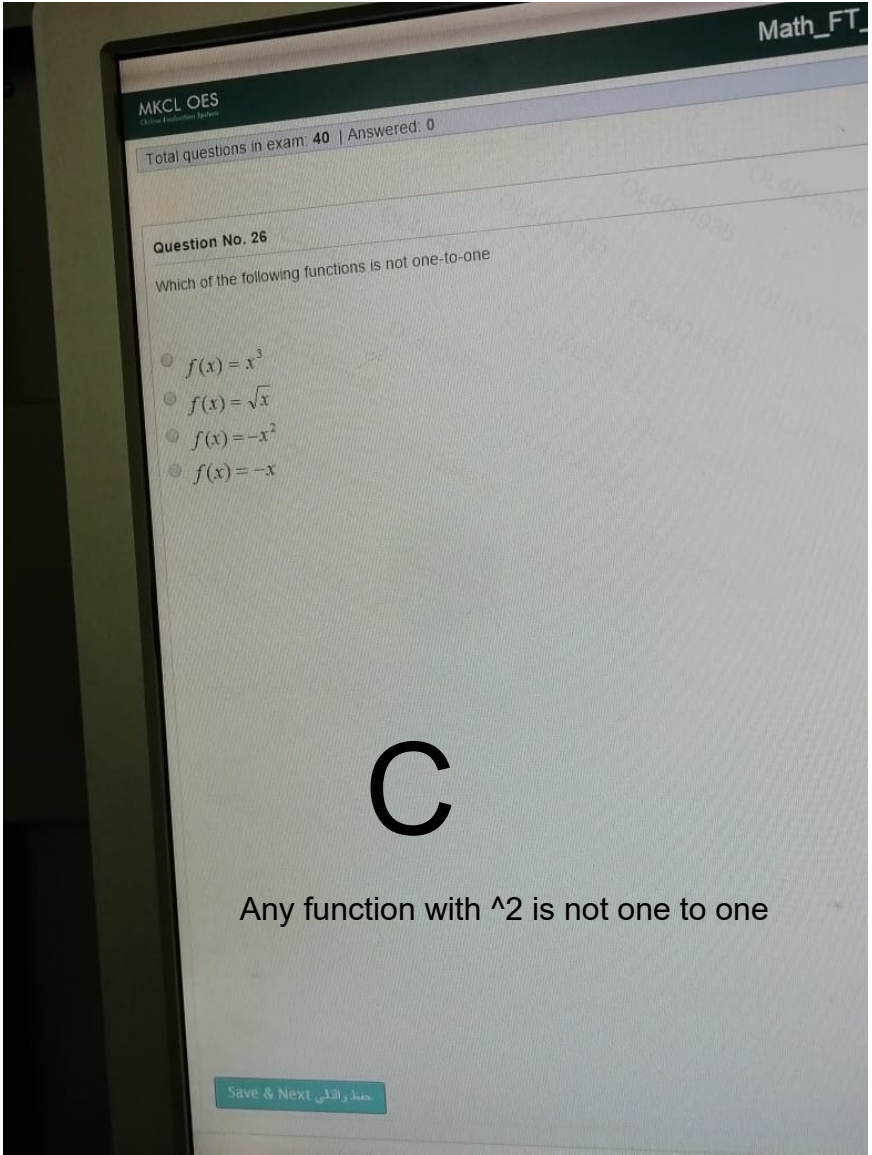

ns in exam: 40 | Answered: 5
Question No.
Suppose $a, b \in \mathbb{R}$ and $b > 0$. The solution of the inequality $0 < |x - a| < b$ is
$(a - b, a) \cup (a, a + b)$
$(a - b, a) \cup (a, b)$
$(-b, a) \cup (a, a + b)$
$(a - b, a] \cup (a, b)$

A



(√2)^3-5x = 4^(a+x)
(√2)^2(3-5x) = 4^2(a+x)
2^(3-5x) = 4^2(a+x)
2^(3-5x) = 2^2*2(a+x)
2^(3-5x) = 2^4(a+x)
3-5x = 4(a+x)
3-5x = 4a +4x
3-4a = 9x
(3-4a)/9 = x
3/9 - 4a/9 =x
1/3 - 4/9 a = x




Math_FT_
MKCL OES
Total questions in exam: 40 | Answered: 0
Question No. 26
Which of the following functions is not one-to-one
$f(x) = x^3$
$f(x) = \sqrt{x}$
$f(x) = -x^2$
$f(x) = -x$
C
Any function with ^2 is not one to one
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MKCL OES

Math_FT_

Total questions in exam: 40 | Answered: 0

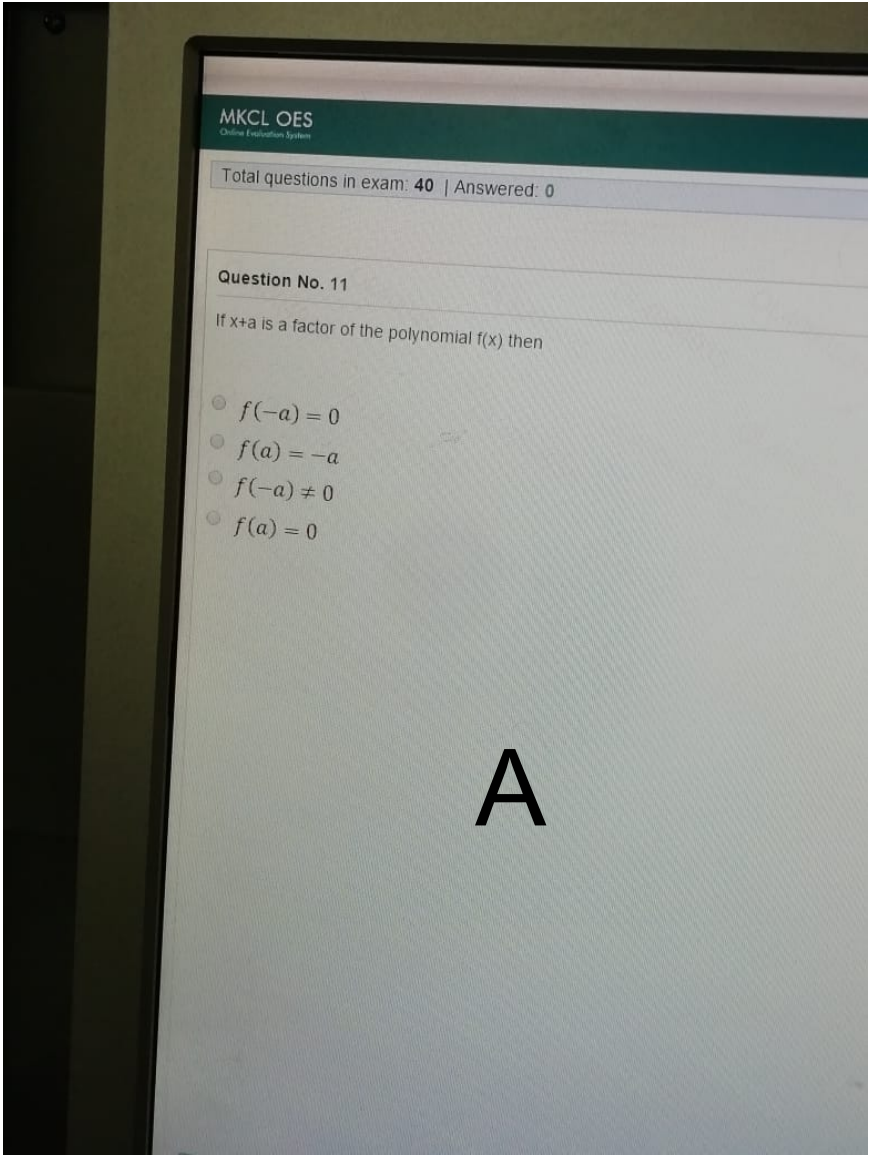
Question No. 36

The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is

- $\{\frac{1}{2} - \frac{1}{6}a\}$
- $\{\frac{3}{2} - \frac{2}{7}a\}$
- $\{\frac{1}{3} - \frac{4}{9}a\}$
- $\{3 + \frac{4}{9}a\}$

C

Save & Next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Online Evaluation System
Total questions in exam: 40 | Answered: 0
Question No. 11
If x+a is a factor of the polynomial f(x) then
$f(-a) = 0$
$f(a) = -a$
$f(-a) \neq 0$
$f(a) = 0$
A

Question No. 16

Find the value of 'c' that will allow this polynomial to be written as a perfect square.

$$x^2 - x + c$$

- $\frac{1}{2}$
- $\frac{1}{4}$
- 1
- $-\frac{1}{2}$

B

Total questions in exam: **40** | Answered: **31**

Question No. 2

Let $a \in \mathbb{R}$. If the solution set of the inequality $|4x-8|+a>0$ is $(-\infty,2)\cup(2,+\infty)$ then

- a = 1
- a = 0
- a = 2
- a = −1

B

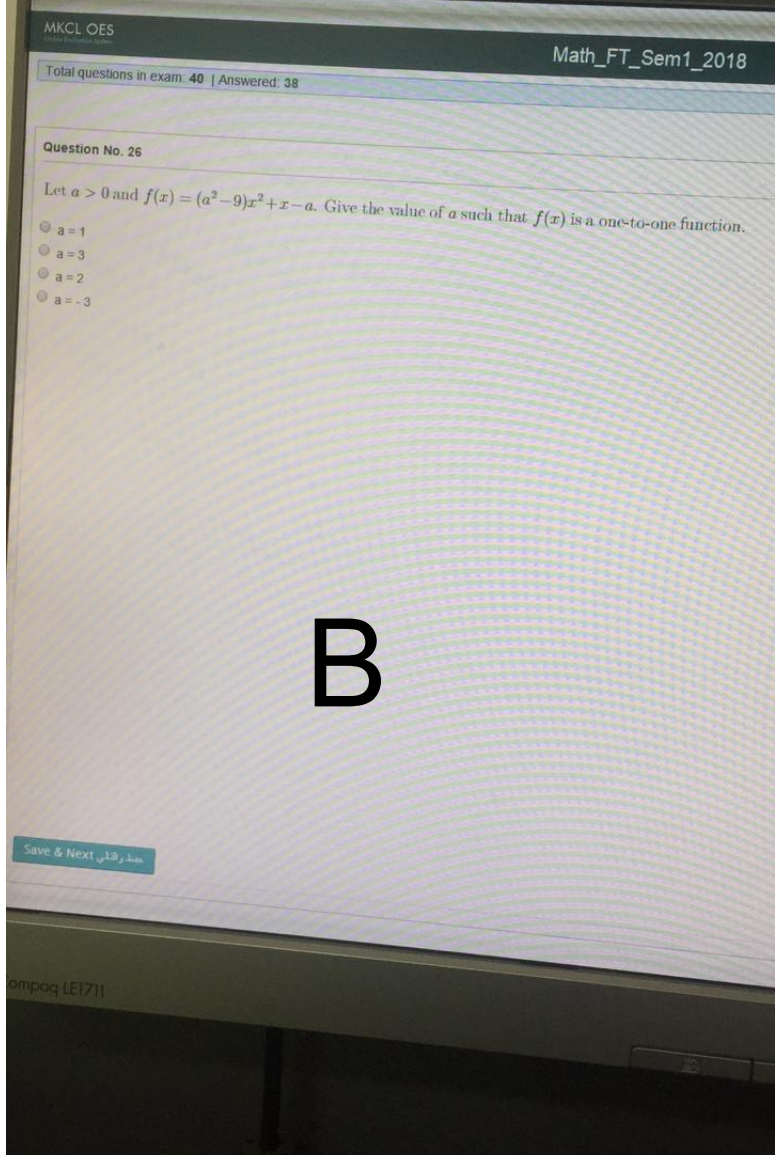
We know that 2 is not in soultion set
to find a we should replace x by 2
4*2 - 8 = 0 , then a>0 , 0 is a number which doesn't satisfy the equation.

Question No. 29

Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.

- $a = b = 1$.
- $a = -1$ and $b = 1$.
- $a \in \mathbb{R}$ and $b \neq 0$.
- $a \in \mathbb{R}$ and $b = 1$.

C



if there's x^2 then
this is not one to one.

we use the number that
gives x^2=0

remeber a shoul be POSITIVE
a > 0

If $f(x)=x^3+2x^2-1$ then $f(a^4)=$

- a^7+2a^6-1
- $a+2a^{-1}-1$
- $a^{12}+2a^8-1$
- a^9-1

C

(a^4)^3 + 2(a^4)^2 - 1

a^(4*3) + 2(a)^(4*2) - 1

a^12 + 2a^8 - 1

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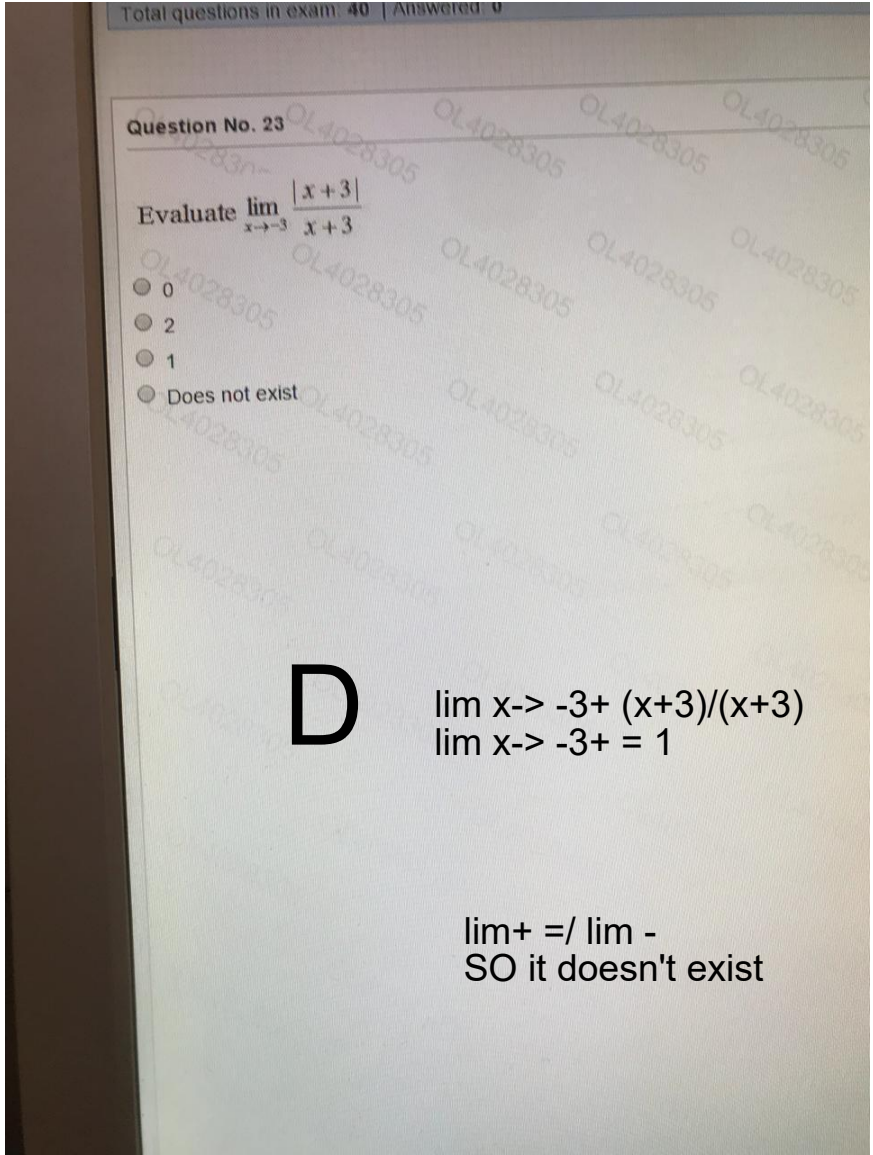


Lim+ = lim-

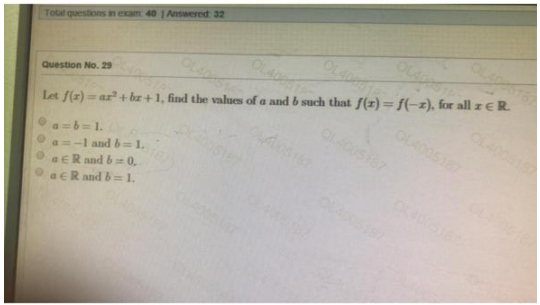
D

lim x-> -3+ (x+3)/(x+3)
lim x-> -3+ = 1

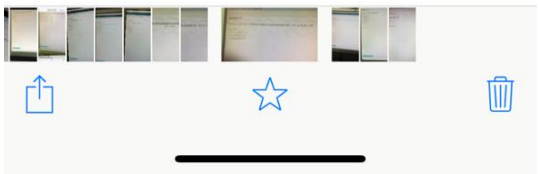
lim x-> -3- (-x-3)/(x+3)
im x-> -3- -(x+3)/(x+3)
im x-> -3- = -1

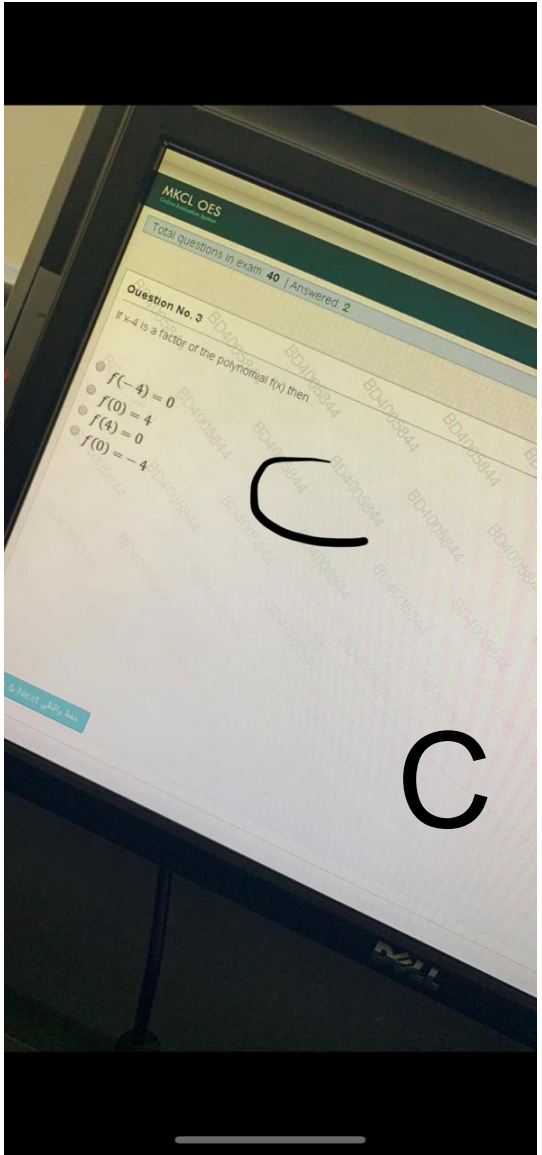
lim+ =/ lim -
SO it doesn't exist


Raghad Alenzi @ (بنات) 7 شعبة
بنات ترا سهل شوفو التجميعات


Total questions in exam: 40 | Answered: 32
Question No. 29
Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.
$a = b = 1$.
$a = -1$ and $b = 1$.
$a \in \mathbb{R}$ and $b = 0$.
$a \in \mathbb{R}$ and $b = 1$.

C

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Total questions in exam: 40 | Answered: 2
Question No. 3
If x-4 is a factor of the polynomial f(x) then
f(−4) = 0
f(0) = 4
f(4) = 0
f(0) = −4
C

MKCL OES

Math_FT_

Total questions in exam: 40 | Answered: 0

Question No. 36

The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is

- $\{\frac{1}{2} - \frac{1}{6}a\}$
- $\{\frac{3}{2} - \frac{2}{7}a\}$
- $\{\frac{1}{3} - \frac{4}{9}a\}$
- $\{3 + \frac{4}{9}a\}$

C

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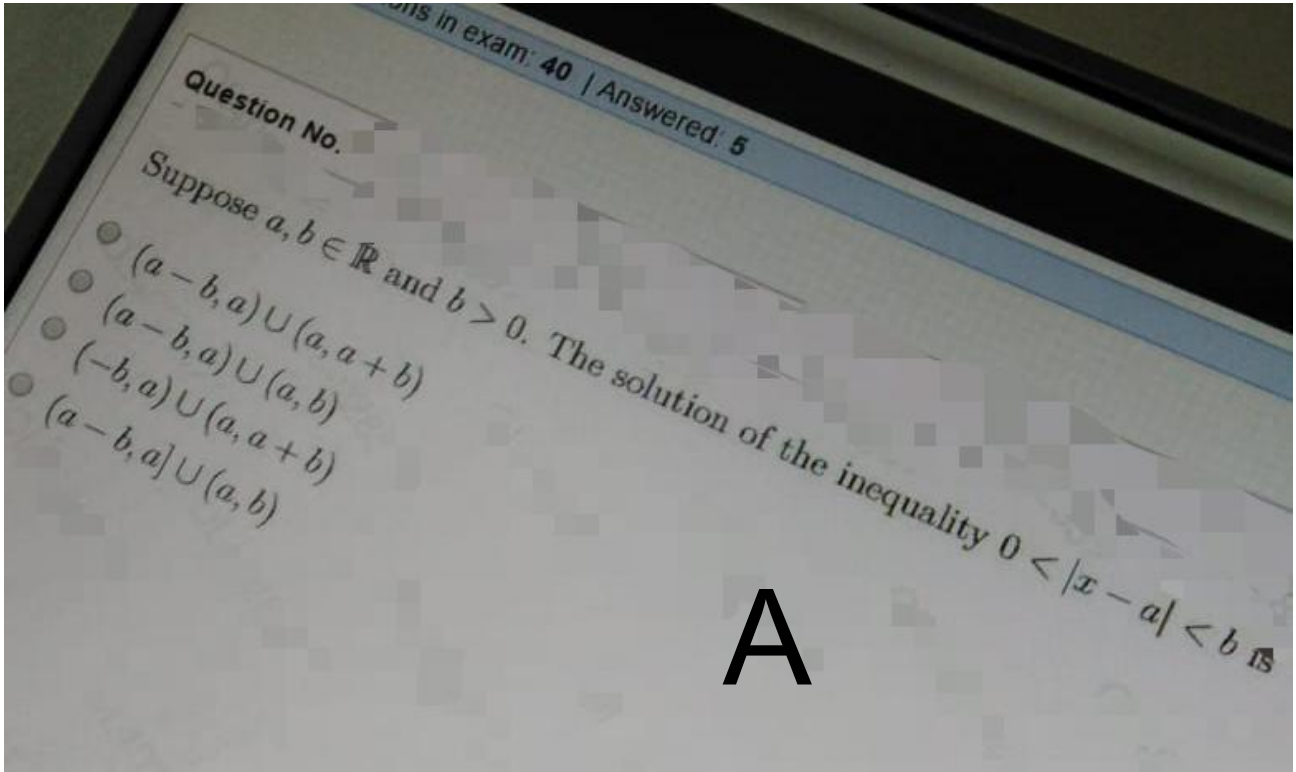
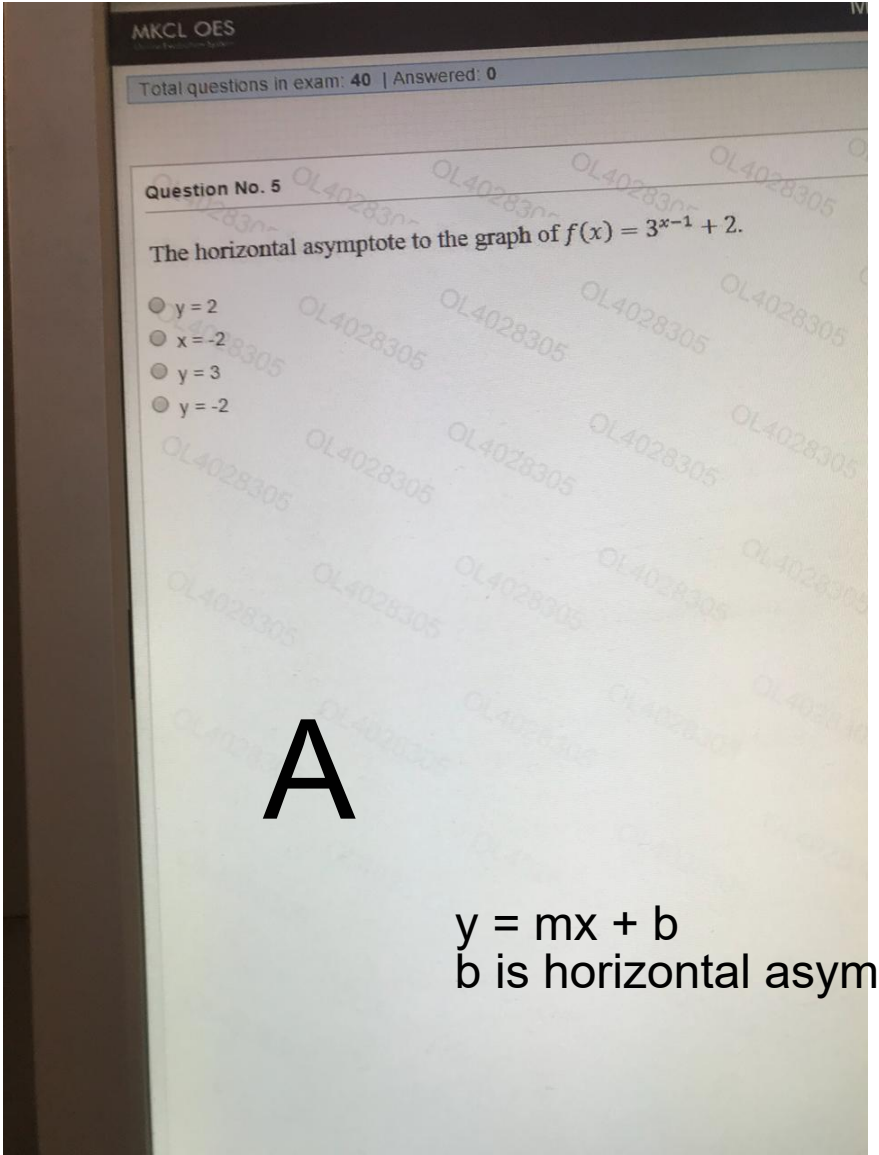

ns in exam: 40 | Answered: 5
Question No.
Suppose $a, b \in \mathbb{R}$ and $b > 0$. The solution of the inequality $0 < |x - a| < b$ is
$(a - b, a) \cup (a, a + b)$
$(a - b, a) \cup (a, b)$
$(-b, a) \cup (a, a + b)$
$(a - b, a] \cup (a, b)$
A


MKCL OES
Total questions in exam: 40 | Answered: 0
Question No. 5
The horizontal asymptote to the graph of $f(x) = 3^{x-1} + 2$.
y = 2
x = -2
y = 3
y = -2
A
y = mx + b
b is horizontal asymptote

Question No. 24

Let $x \in \mathbb{Z}$. Simplify the following expression $a = 3i^{132x^2+4x-3}$

- $a = 3i$
- $a = -3i$
- $a = -3$
- $a = 3$

A

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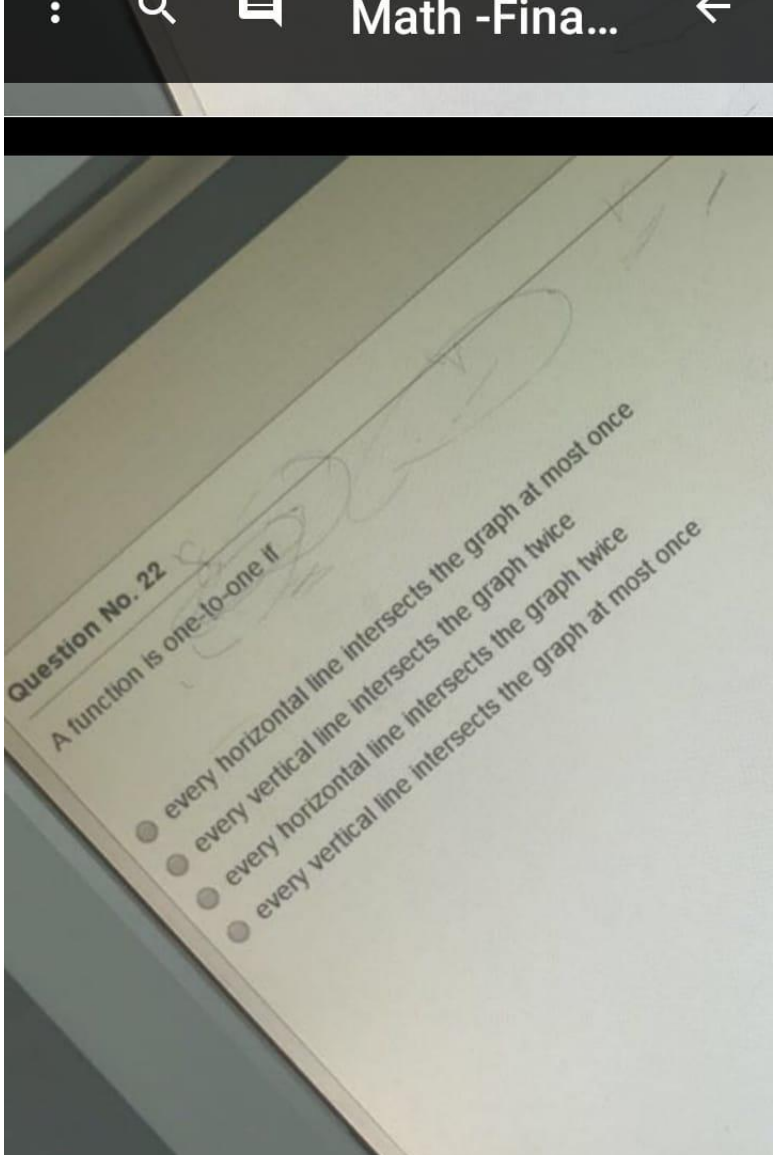
Math -Fina...
Question No. 22
A function is one-to-one if
every horizontal line intersects the graph at most once
every vertical line intersects the graph twice
every horizontal line intersects the graph twice
every vertical line intersects the graph at most once

A

Question No. 26

Let $f(x) = x^2 + c$ and $g(x) = x$, give the value of c such that $f(x+1) = xg(x) + 2x$.

- c = 1
- c = -1
- c = 4
- c = 0

B

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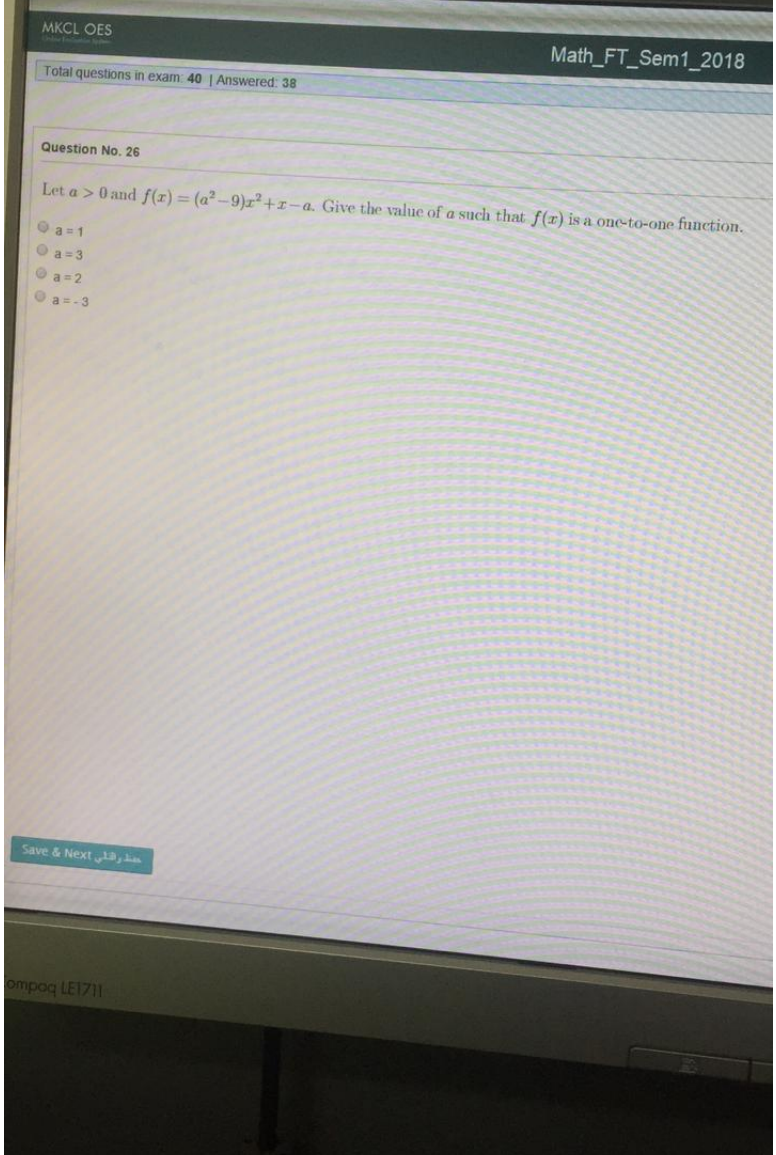
Total questions in exam: 40 | Answered: 32

Question No. 29

Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.

- $a = b = 1$.
- $a = -1$ and $b = 1$.
- $a \in \mathbb{R}$ and $b \neq 0$.
- $a \in \mathbb{R}$ and $b = 1$.

C


MKCL OES
Math_FT_Sem1_2018
Total questions in exam: 40 | Answered: 38
Question No. 26
Let $a > 0$ and $f(x) = (a^2-9)x^2+x-a$. Give the value of a such that $f(x)$ is a one-to-one function.
a = 1
a = 3
a = 2
a = - 3
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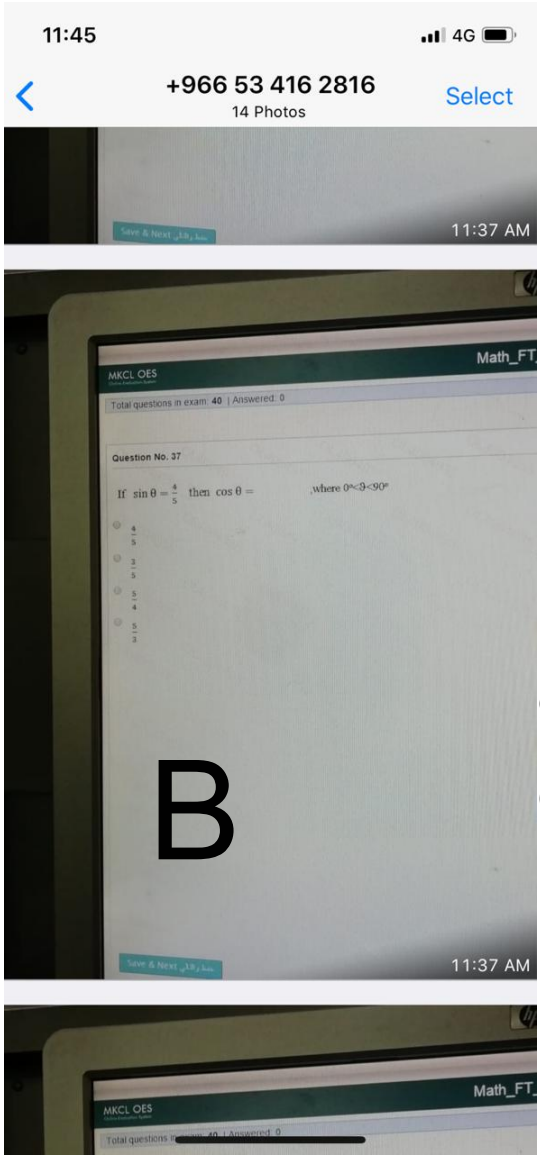
B



1-sin^2 = cos^2
1- (4/5)^2 = cos^2
9/25 = cos^2
$\sqrt{}(9/25) = \cos$
$\cos = 3/5$

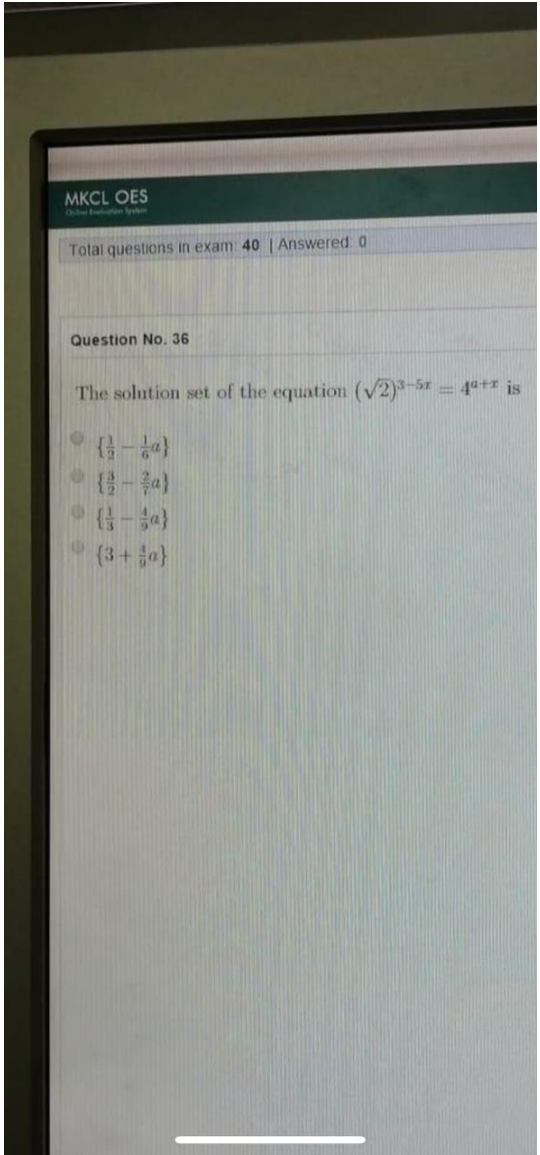
Total questions in exam: 40 | Answered: 31

Question No. 2

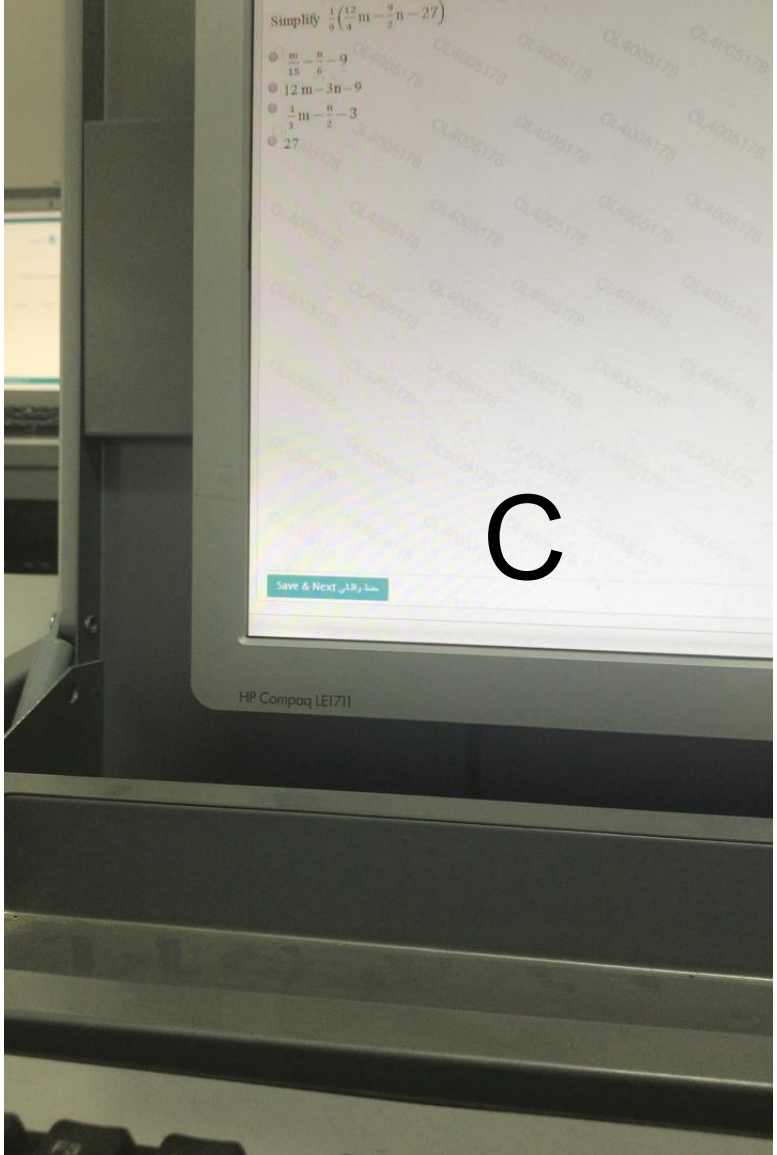
Let $a \in \mathbb{R}$. If the solution set of the inequality $|4x-8|+a>0$ is $(-\infty,2)\cup(2,+\infty)$ then

- a = 1
- a = 0
- a = 2
- a = −1

B


MKCL OES
Total questions in exam: 40 | Answered: 0
Question No. 36
The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is
$\{\frac{1}{2} - \frac{1}{6}a\}$
$\{\frac{3}{2} - \frac{2}{7}a\}$
$\{\frac{1}{3} - \frac{4}{9}a\}$
$\{3 + \frac{4}{9}a\}$

C


Simplify $\frac{1}{9}\left(\frac{12}{4}m-\frac{9}{2}n-27\right)$
$\frac{m}{15}-\frac{n}{6}-9$
$12m-3n-9$
$\frac{1}{3}m-\frac{n}{2}-3$
27
C
Save & Next
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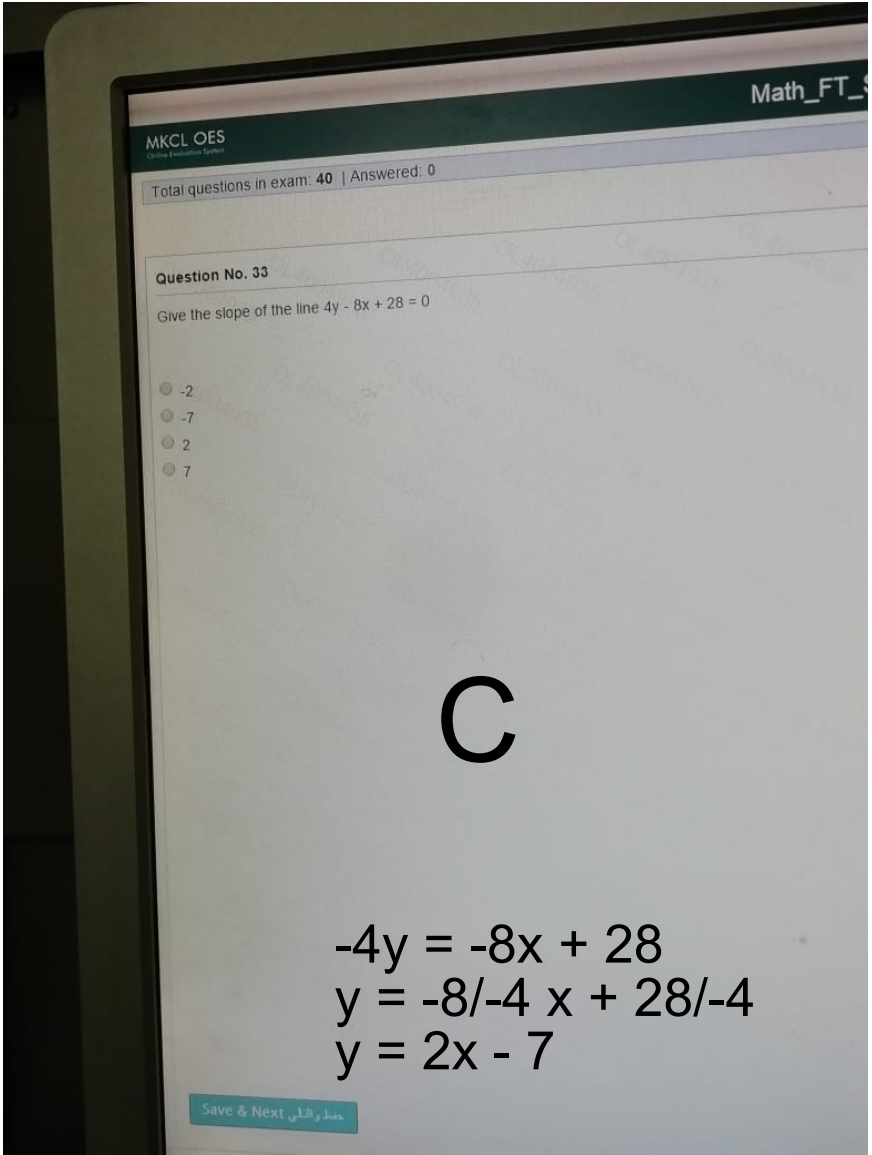
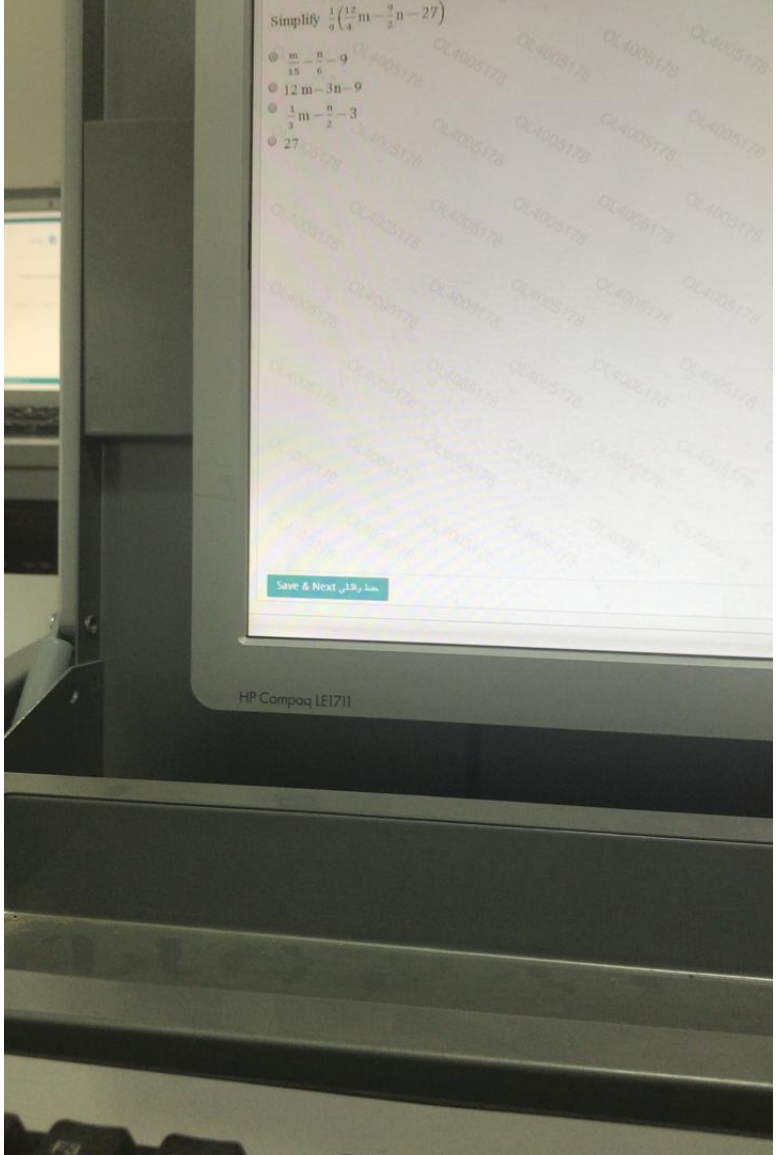


y = mx + b
m is slope


Simplify $\frac{1}{9}\left(\frac{12}{4}m-\frac{9}{2}n-27\right)$
$\frac{m}{15}-\frac{n}{6}-9$
$12m-3n-9$
$\frac{1}{3}m-\frac{n}{2}-3$
27
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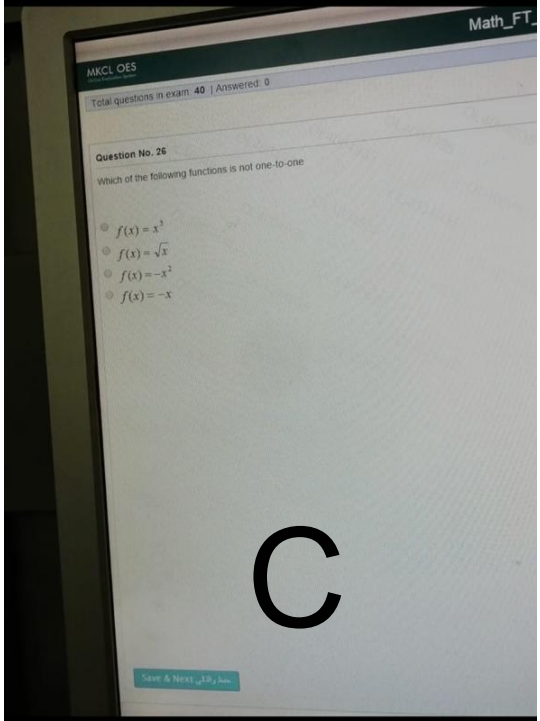
C


Math_FT_
MKCL OES
Total questions in exam: 40 | Answered: 0
Question No. 26
Which of the following functions is not one-to-one
$f(x) = x^3$
$f(x) = \sqrt{x}$
$f(x) = -x^2$
$f(x) = -x$
C
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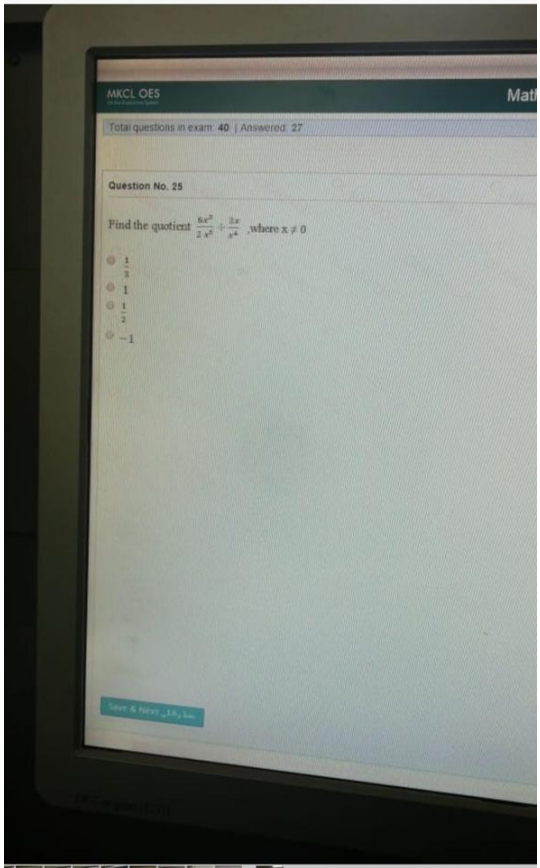

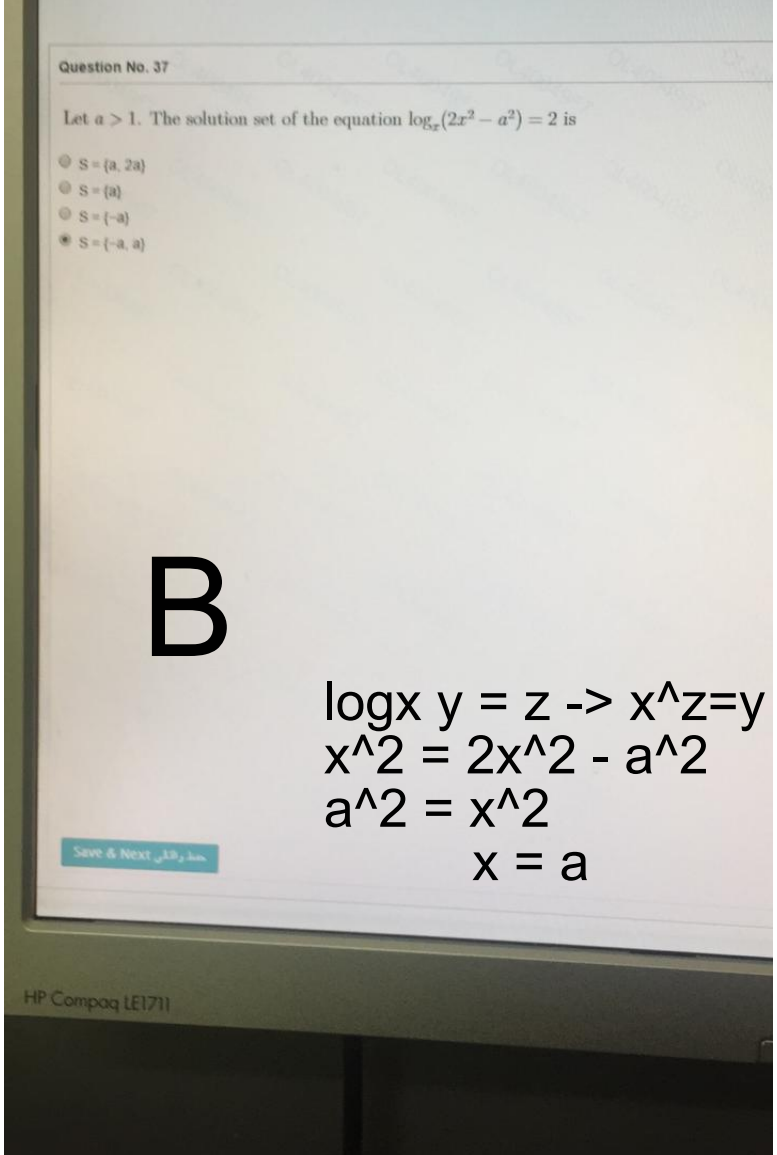
Question No. 37
Let $a > 1$. The solution set of the equation $\log_x(2x^2 - a^2) = 2$ is
S = {a, 2a}
S = {a}
S = {-a}
S = {-a, a}
B
logx y = z -> x^z=y
x^2 = 2x^2 - a^2
a^2 = x^2
x = a
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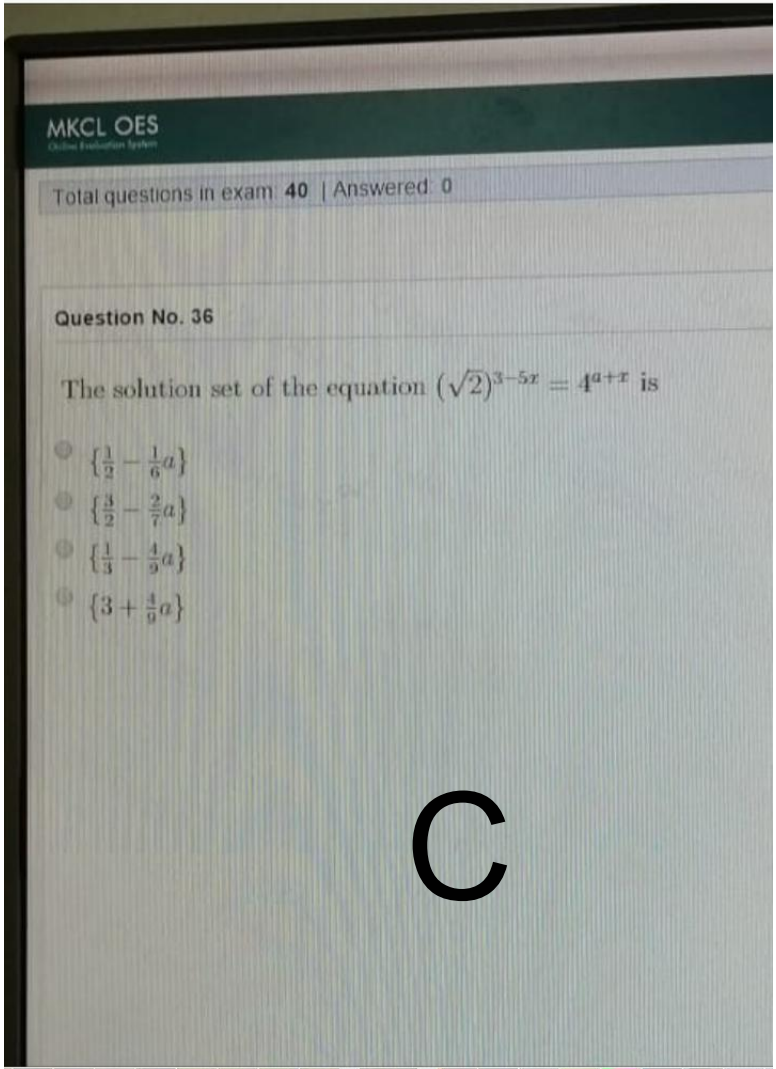
MKCL OES
Total questions in exam 40 | Answered 0
Question No. 36
The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is
$\{\frac{1}{2} - \frac{1}{6}a\}$
$\{\frac{3}{2} - \frac{2}{7}a\}$
$\{\frac{1}{3} - \frac{4}{9}a\}$
$\{3 + \frac{4}{9}a\}$
C

Total questions in exam: 40 | Answered: 31

Question No. 2

Let $a \in \mathbb{R}$. If the solution set of the inequality $|4x-8|+a>0$ is $(-\infty,2)\cup(2,+\infty)$ then

- a = 1
- a = 0
- a = 2
- a = −1

B

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Math_FT_Sem1_2018

Total questions in exam: 40 | Answered: 38

Question No. 26

Let $a > 0$ and $f(x) = (a^2 - 9)x^2 + x - a$. Give the value of a such that $f(x)$ is a one-to-one function.

- a = 1
- a = 3
- a = 2
- a = - 3

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B

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- x = -3
- x = -1
- y = -3
- y = -1

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Math_FT_Sem1_2018

Total questions in exam: 40 | Answered: 38

Question No. 26

Let $a > 0$ and $f(x) = (a^2-9)x^2+x-a$. Give the value of a such that $f(x)$ is a one-to-one function.

- a = 1
- a = 3
- a = 2
- a = - 3

B

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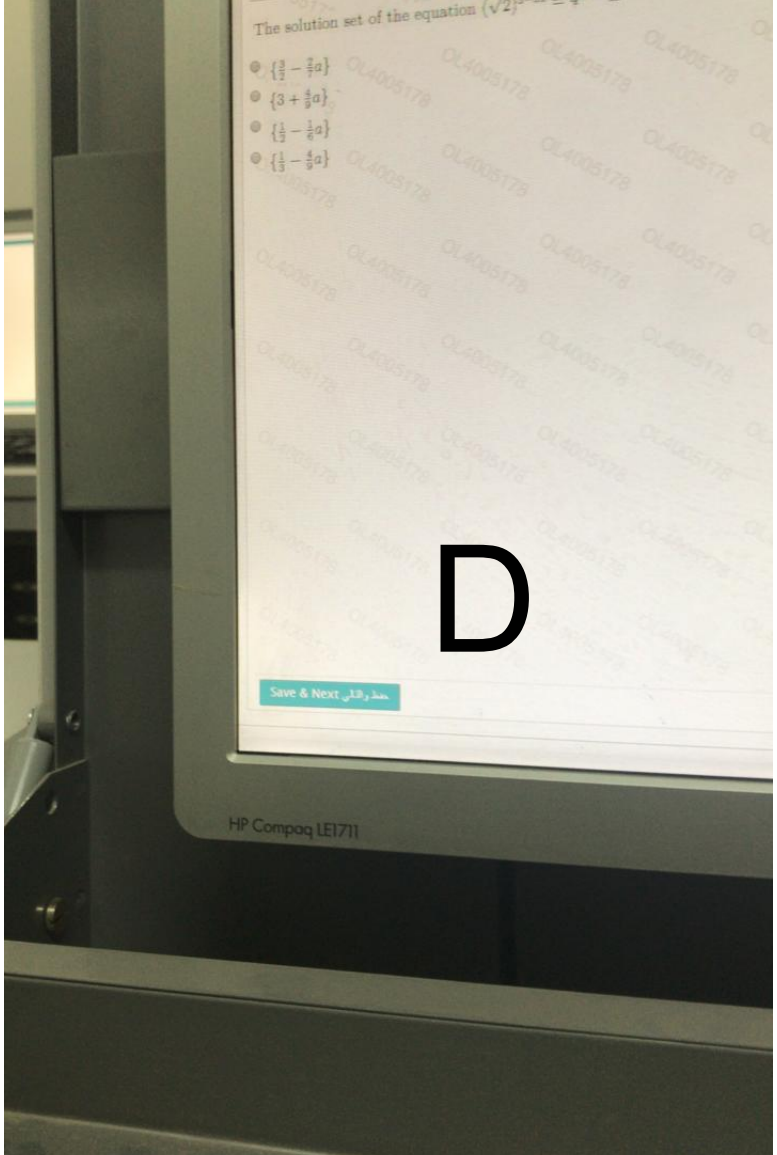
The solution set of the equation
$\{\frac{3}{2} - \frac{2}{7}a\}$
$\{3 + \frac{4}{5}a\}$
$\{\frac{1}{3} - \frac{1}{6}a\}$
$\{\frac{1}{3} - \frac{4}{9}a\}$
D
Save & Next
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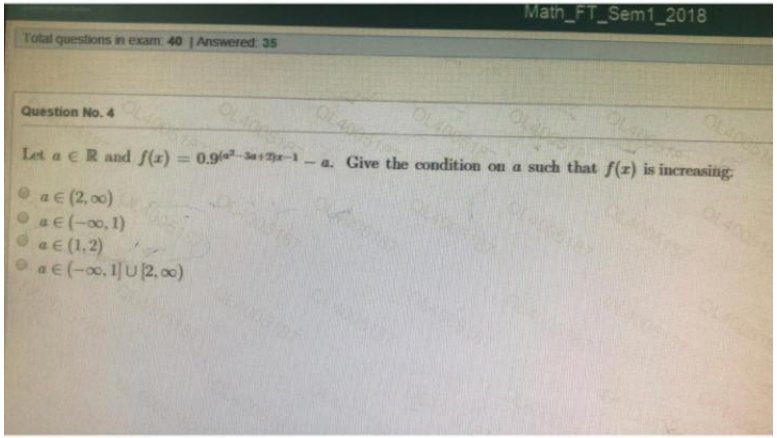
Total questions in exam: 40 | Answered: 32

Question No. 29

Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.

- $a = b = 1$.
- $a = -1$ and $b = 1$.
- $a \in \mathbb{R}$ and $b \neq 0$.
- $a \in \mathbb{R}$ and $b = 1$.

C


Math_FT_Sem1_2018
Total questions in exam: 40 | Answered: 35
Question No. 4
Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.
$a \in (2, \infty)$
$a \in (-\infty, 1)$
$a \in (1, 2)$
$a \in (-\infty, 1] \cup [2, \infty)$

C

Total questions in exam: 40 | Answered: 0

Question No. 22

The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if

- k=-1
- k=1
- k=0
- k=2

D

MKCL OES

Total questions in exam: 40 | Answered: 0

Question No. 36

The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is

- $\{\frac{1}{2} - \frac{1}{6}a\}$
- $\{\frac{3}{2} - \frac{2}{7}a\}$
- $\{\frac{1}{3} - \frac{4}{9}a\}$
- $\{3 + \frac{4}{9}a\}$

C

Question No. 11

If $f(x)=(x-1)^2$ then $f(a^3)=$

- a^6-2a^3+1
- a^2+2a-1
- a^6+a+2
- $3a^2+2a-1$

A

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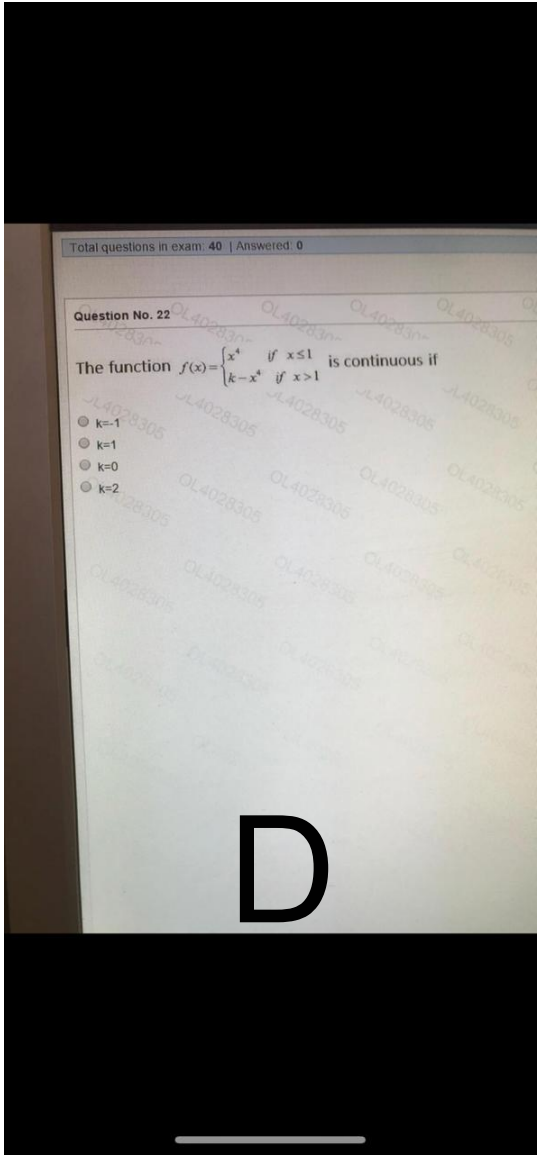
Total questions in exam: 40 | Answered: 0

Question No. 5

The horizontal asymptote to the graph of $f(x) = 3^{x-1} + 2$.

- y = 2
- x = -2
- y = 3
- y = -2

A


Total questions in exam: 40 | Answered: 0
Question No. 22
The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if
k=-1
k=1
k=0
k=2
D

Total questions in exam: 40 | Answered: 35

Question No. 4

Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.

- $a \in (2, \infty)$
- $a \in (-\infty, 1)$
- $a \in (1, 2)$
- $a \in (-\infty, 1] \cup [2, \infty)$

C

Question No. 38

The slope of the line x= -3 is

- -1
- Undefined
- 0
- 1

B

MKCL OES

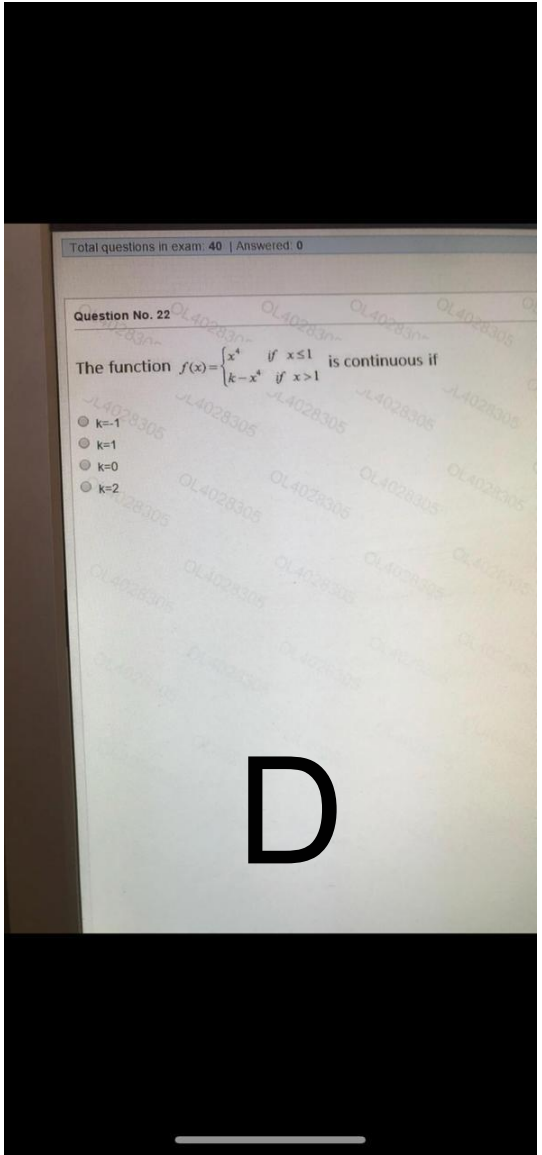
Total questions in exam: 40 | Answered: 40

Question No. 10

Evaluate $\lim_{x \to 1^+} \frac{x^2 - 1}{|x - 1|}$

- 1
- -2
- 6
- 2

D


Total questions in exam: 40 | Answered: 0
Question No. 22
The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if
k=-1
k=1
k=0
k=2
D

Question No. 11

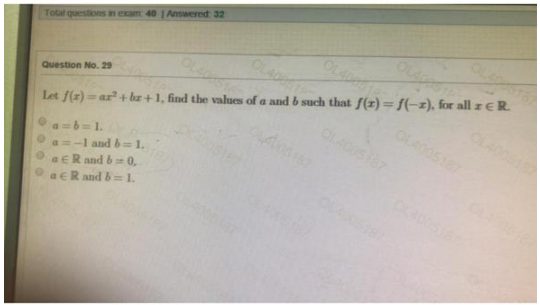
If $\sin\theta = \frac{4}{5}$ then $\cot\theta =$,where $0^\circ<\theta<90^\circ$

- $\frac{4}{3}$
- $\frac{3}{5}$
- $\frac{5}{3}$
- $\frac{3}{4}$

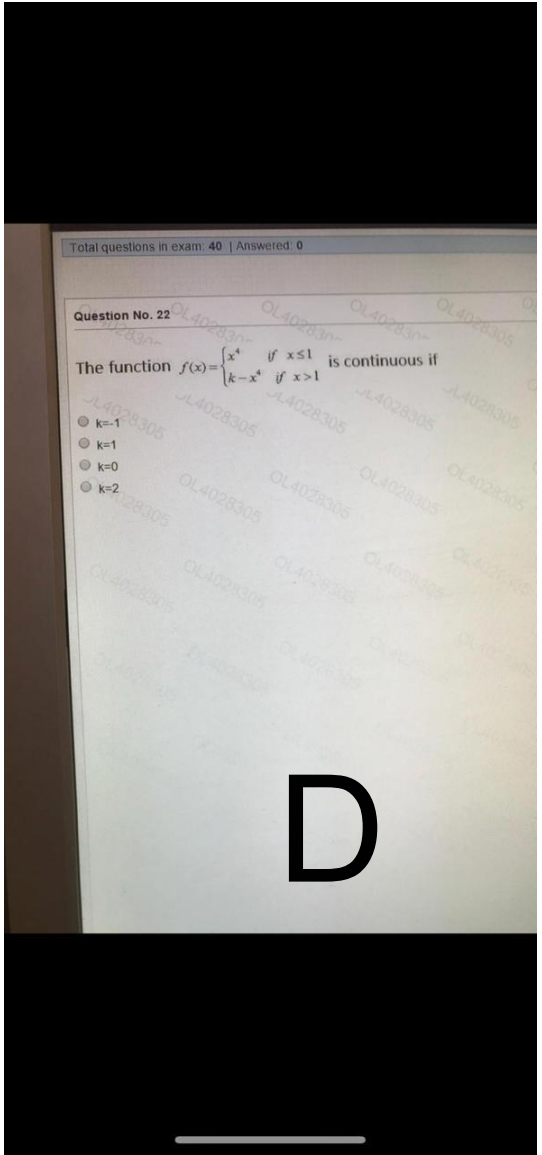
Save & Next

D

Cot = cos / sin
1-sin^2 = cos^2
1-(4/5)^2 = 9/25
$\sqrt{9/25} = 3/5$
cot = (3/5)/(4/5) = 3/4


Total questions in exam: 40 | Answered: 32
Question No. 29
Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.
$a = b = 1$.
$a = -1$ and $b = 1$.
$a \in \mathbb{R}$ and $b = 0$.
$a \in \mathbb{R}$ and $b = 1$.

C


Total questions in exam: 40 | Answered: 0
Question No. 22
The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if
k=-1
k=1
k=0
k=2
D

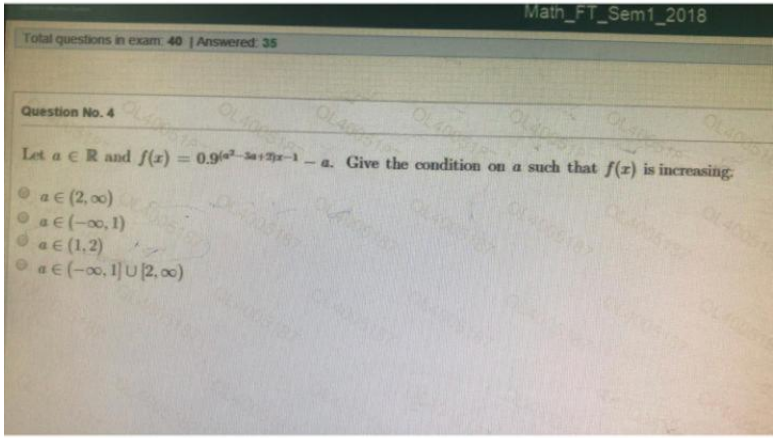
Question No. 38

The slope of the line x= -3 is

- -1
- Undefined
- 0
- 1

B

slope for any x = c
it's undefined


Math_FT_Sem1_2018
Total questions in exam: 40 | Answered: 35
Question No. 4
Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.
$a \in (2, \infty)$
$a \in (-\infty, 1)$
$a \in (1, 2)$
$a \in (-\infty, 1] \cup [2, \infty)$

C

Question No. 24

Let a and b be nonzero real numbers. Find the inverse of the function $f(x) = \frac{a+bx}{b-ax}$.

- $f^{-1}(x) = \frac{bx-a}{ax-b}$
- $f^{-1}(x) = \frac{bx+a}{ax+b}$
- $f^{-1}(x) = \frac{ax+b}{bx-a}$
- $f^{-1}(x) = \frac{bx-a}{ax+b}$

D

x = a+by / b-ay (multiply by (b-ax))
x(b-ay) = a+by , bx - xay = a+by (let y togather)
bx - a = xay + by , bx-a = y(xa+bb) (devide by xa+b)
y = bx-a / ax+b

MKCL OES

Math_FT_Sem1

Total questions in exam: **40** | Answered: **38**

Question No. 29

Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.

- $a = b = 1$.
- $a = -1$ and $b = 1$.
- $a \in \mathbb{R}$ and $b \neq 0$.
- $a \in \mathbb{R}$ and $b = 1$.

C

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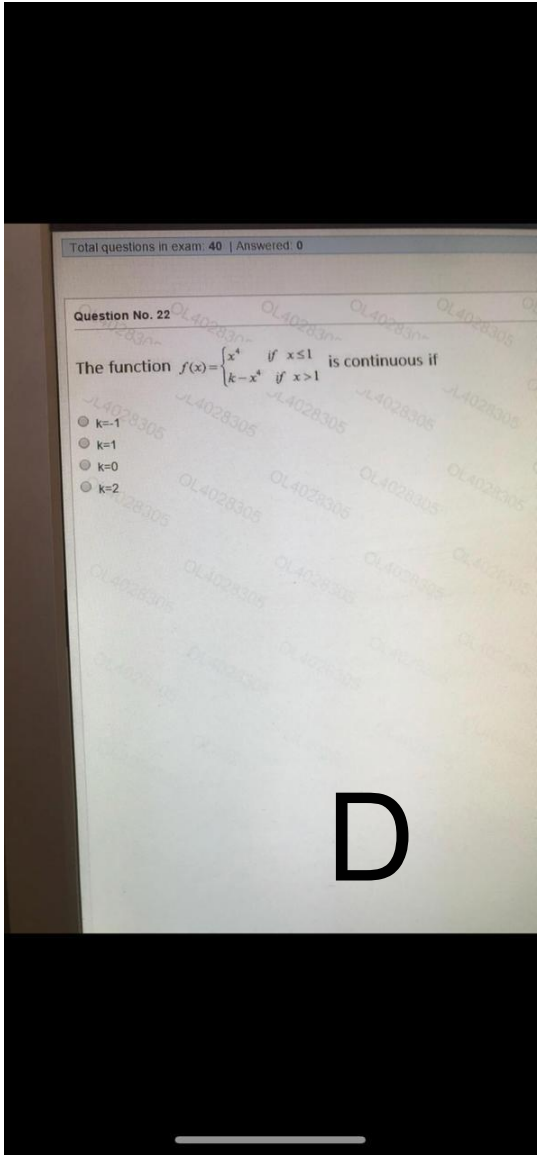
Total questions in exam: 40 | Answered: 0
Question No. 22
The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if
k=-1
k=1
k=0
k=2
D

Question No. 24

Let $a \in \mathbb{R}$. If the solution set of the inequality $|4x-8|+a>0$ is $(-\infty,2)\cup(2,+\infty)$ then

- a = -1
- a = 1
- a = 0
- a = 2

C

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MKCL OES
Online Evaluation System

Total questions in exam: **40** | Answered: **19**

Question No. 30

If $f(x)=x^3+2x^2-1$ then $f(a^4)=$

- a^9-1
- $a^{12}+2a^8-1$
- $a+2a^{-1}-1$
- a^7+2a^6-1

B

Save & Next

Math_FT_Se

Total questions in exam: 40 | Answered: 37

Question No. 27

If $a \neq 1$ is a positive real number such that $5^x = a$ then $x =$

- $\frac{\ln 5}{\ln a}$
- $\ln(\frac{a}{5})$
- $\frac{\ln a}{\ln 5}$
- $\ln(\frac{5}{a})$

C

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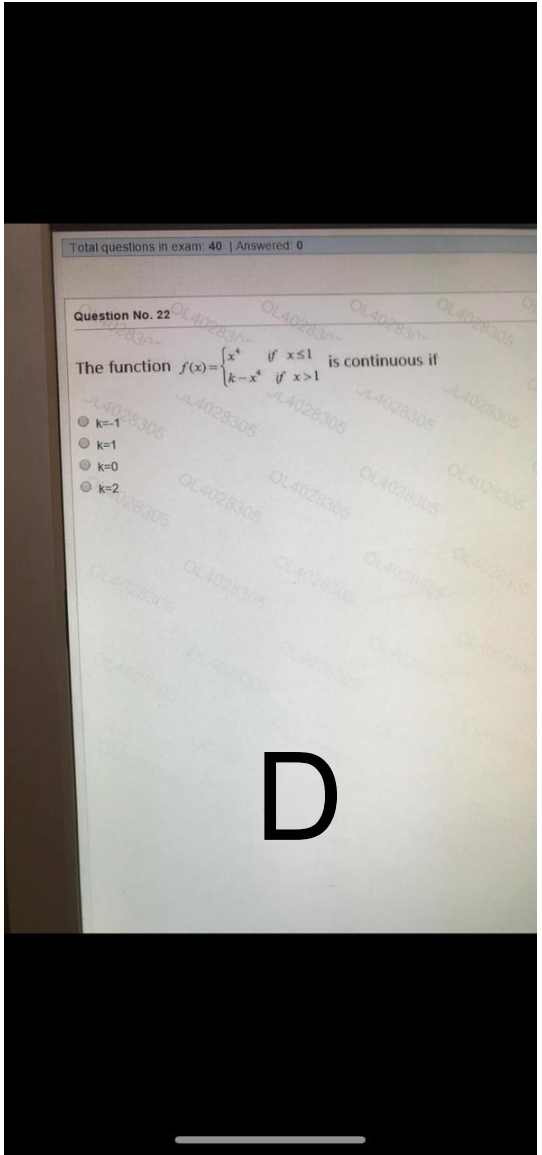

Total questions in exam: 40 | Answered: 0
Question No. 22
The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if
k=-1
k=1
k=0
k=2
D

MKCL OES

Math_FT_Sem

Total questions in exam: 40 | Answered: 13

Question No. 18

Which of the following points are on the graph of $f(x) = 4 + 2\log_5(1-2x)$?

- $(0,4)$, $(-1,6)$ and $(\frac{1}{3},-2)$
- $(3,1)$, $(1,0)$ and $(\frac{1}{3},-1)$
- $(0,4)$, $(-1,6)$ and $(\frac{1}{3},2)$
- $(0,6)$, $(-1,4)$ and $(\frac{1}{3},2)$

C

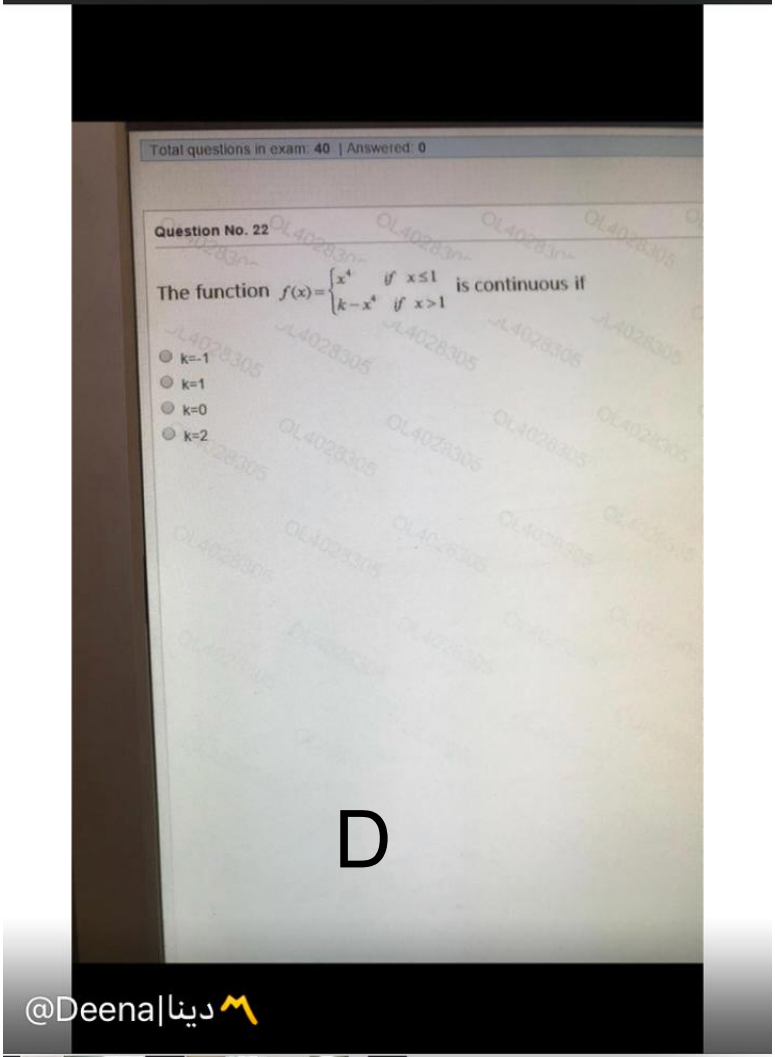
using cacluator
Mode: 7

Question No. 4

Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.

- $a \in (2, \infty)$
- $a \in (-\infty, 1)$
- $a \in (1, 2)$
- $a \in (-\infty, 1] \cup [2, \infty)$

C


Total questions in exam: 40 | Answered: 0
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The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if
k=-1
k=1
k=0
k=2
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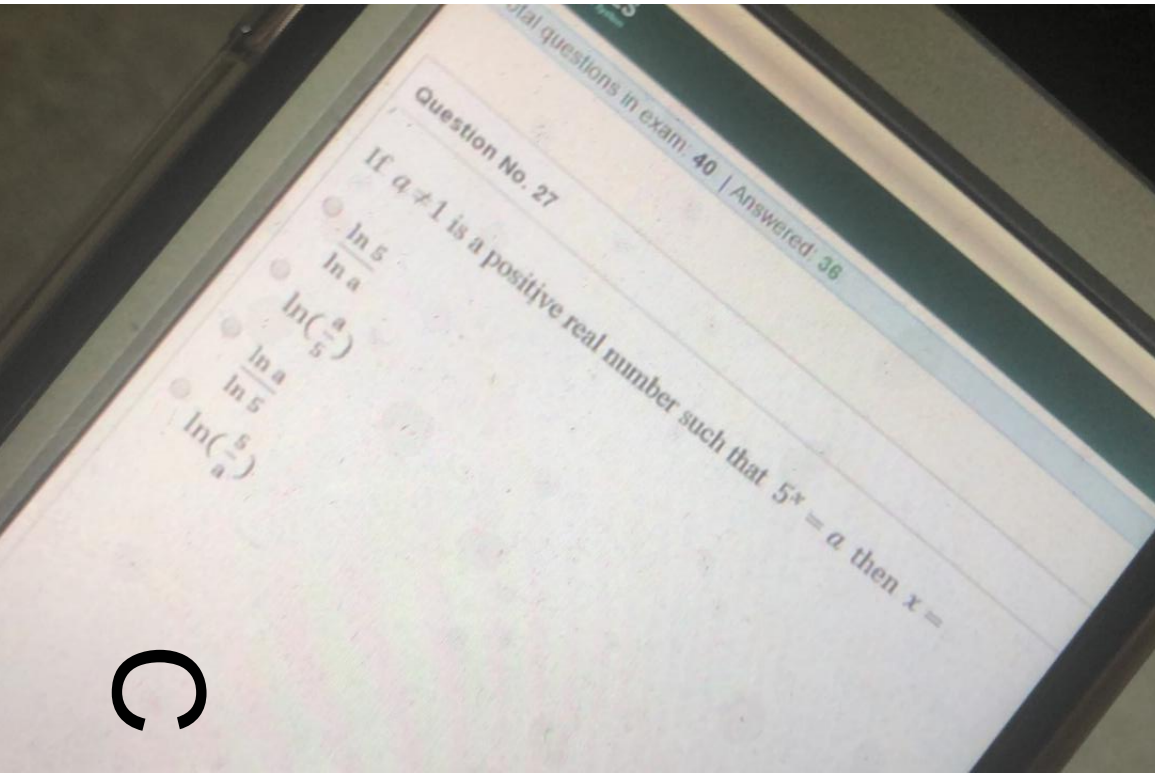
tal questions in exam: 40 | Answered: 36
Question No. 27
If $a \neq 1$ is a positive real number such that $5^x = a$ then $x =$
$\frac{\ln 5}{\ln a}$
$\ln(\frac{a}{5})$
$\frac{\ln a}{\ln 5}$
$\ln(\frac{5}{a})$

MKCL OES

Total questions in exam: 40 | Answered: 7

Question No. 27

If $f(x) = -\frac{1}{3}x + 1$, the domain of $f^{-1}(x)$ is

- $[-3,1)$
- $[-\frac{1}{3},1)$
- $[0,\infty)$
- all real numbers

D

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Online Evaluation System

Math_

Total questions in exam: **40** | Answered: **22**

Question No. 38

If $f(x) = 1 - \sqrt{x+2}$, then the domain of $f^{-1}(x)$ is

- $(-\infty, 1]$
- $(-\infty, \infty)$
- $[1, \infty)$
- $[-2, \infty)$

A

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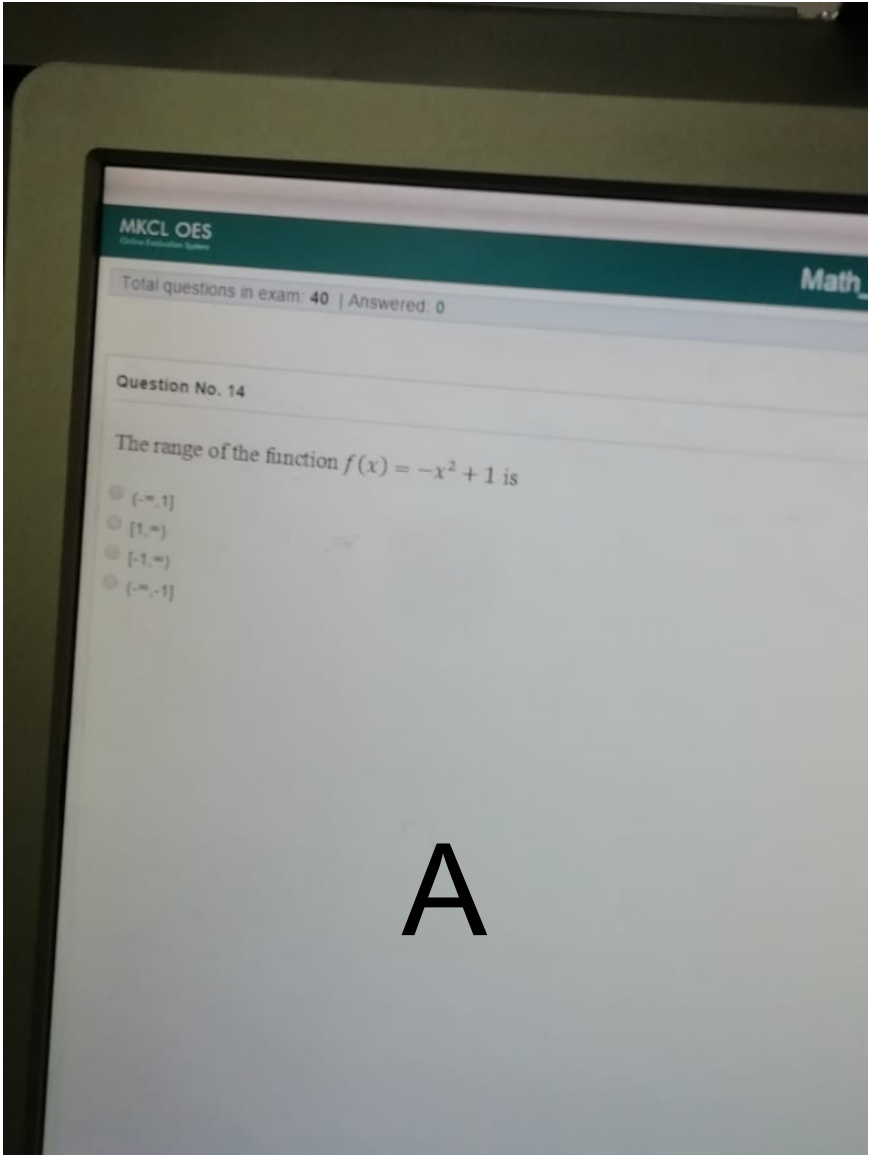
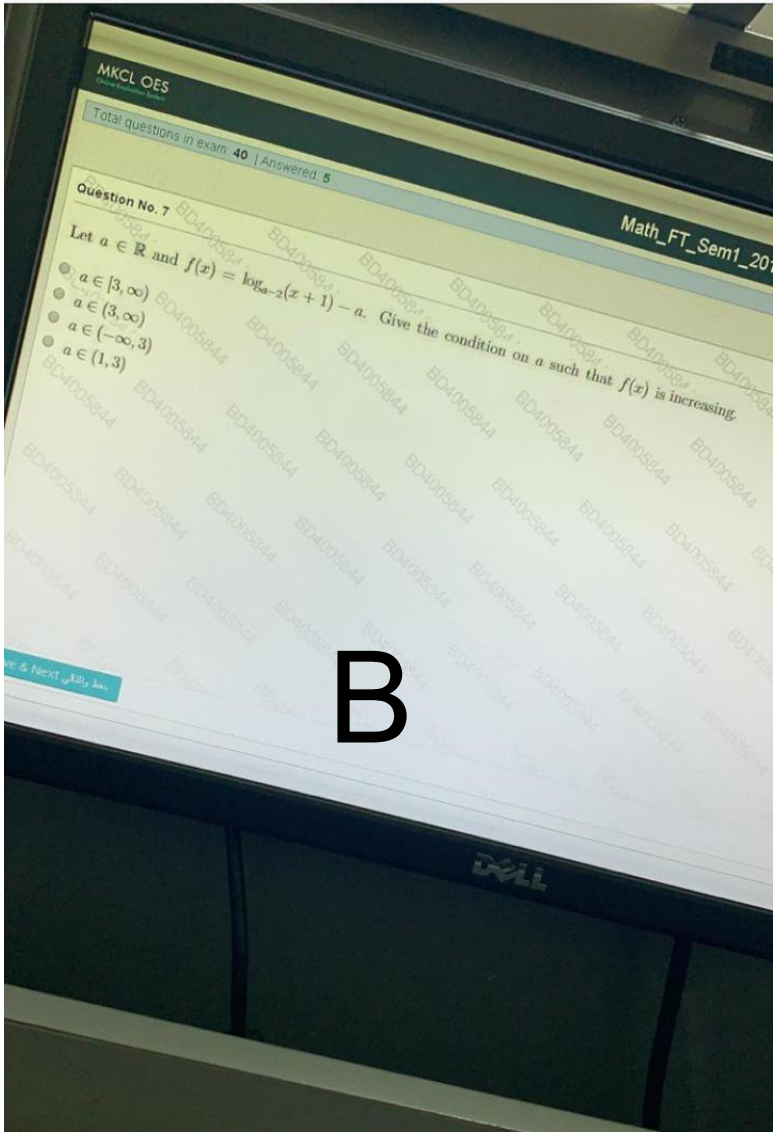

MKCL OES
Math_
Total questions in exam: 40 | Answered: 0
Question No. 14
The range of the function $f(x) = -x^2 + 1$ is
(-∞,1]
[1,∞)
[-1,∞)
(-∞,-1]
A


MKCL OES
Total questions in exam 40 | Answered 5
Question No. 7
Math_FT_Sem1_20
Let $a \in \mathbb{R}$ and $f(x) = \log_{a-2}(x+1) - a$. Give the condition on a such that $f(x)$ is increasing.
$a \in [3, \infty)$
$a \in (3, \infty)$
$a \in (-\infty, 3)$
$a \in (1, 3)$
B
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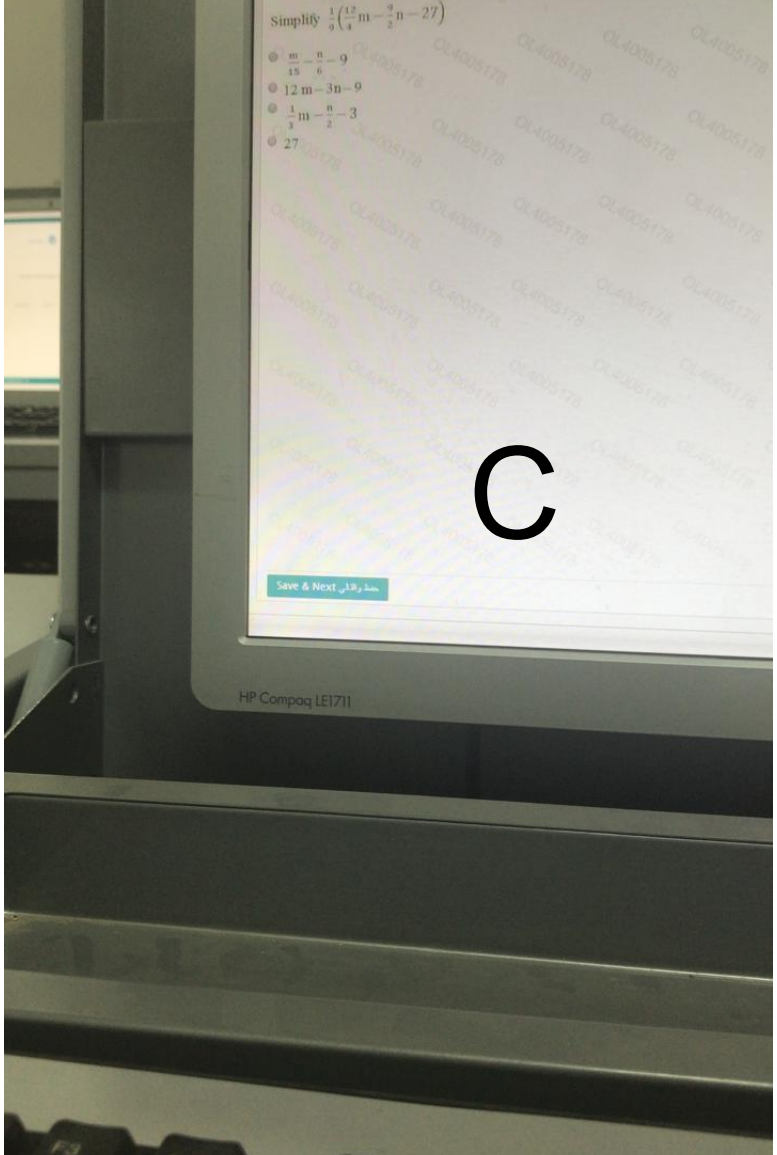
Simplify $\frac{1}{9}\left(\frac{12}{4}m-\frac{9}{2}n-27\right)$
$\frac{m}{15}-\frac{n}{6}-9$
$12m-3n-9$
$\frac{1}{3}m-\frac{n}{2}-3$
27
C
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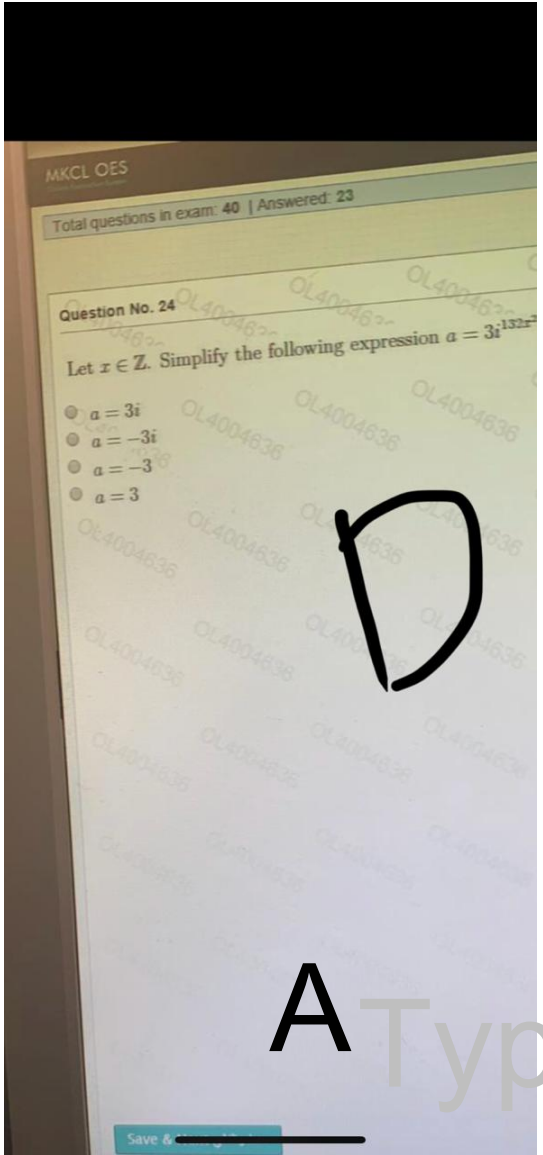

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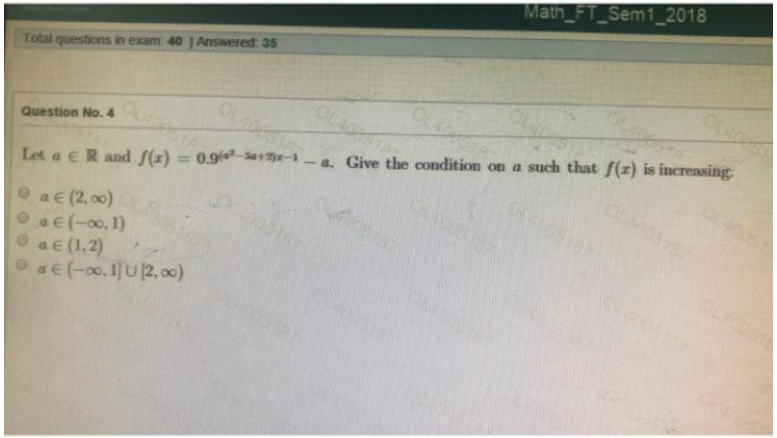
Math_FT_Sem1_2018
Total questions in exam: 40 | Answered: 35
Question No. 4
Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.
$a \in (2, \infty)$
$a \in (-\infty, 1)$
$a \in (1, 2)$
$a \in (-\infty, 1] \cup [2, \infty)$

C

MKCL OES

Math_FT_Sem1_2018

Total questions in exam: 40 | Answered: 37

Question No. 19

Which of the following points are on the graph of $f(x) = 4 + 2\log_5(1 - 2x)$?

- $(0, 4)$, $(-1, 6)$ and $(\frac{1}{3}, 2)$
- $(0, 6)$, $(-1, 4)$ and $(\frac{1}{3}, 2)$
- $(0, 4)$, $(-1, 6)$ and $(\frac{1}{3}, -2)$
- $(3, 1)$, $(1, 0)$ and $(\frac{1}{3}, -1)$

A

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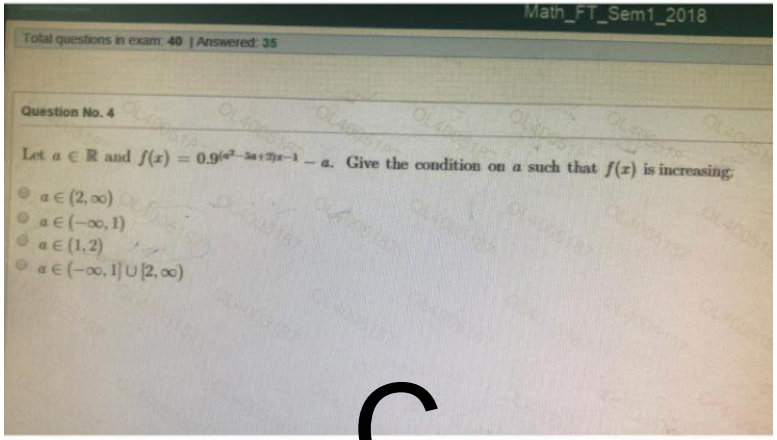
Math_FT_Sem1_2018
Total questions in exam: 40 | Answered: 35
Question No. 4
Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.
$a \in (2, \infty)$
$a \in (-\infty, 1)$
$a \in (1, 2)$
$a \in (-\infty, 1] \cup [2, \infty)$

C

Question No. 24

The graph of $f(x) = 3^x$ is

- Decreasing
- Decreasing and Increasing
- Constant
- Increasing

D

MKCL OES

Math_FT_Sem1_2018

Total questions in exam: 40 | Answered: 37

Question No. 19

Which of the following points are on the graph of $f(x) = 4 + 2\log_5(1 - 2x)$?

- $(0, 4)$, $(-1, 6)$ and $(\frac{1}{3}, 2)$
- $(0, 6)$, $(-1, 4)$ and $(\frac{1}{3}, 2)$
- $(0, 4)$, $(-1, 6)$ and $(\frac{1}{3}, -2)$
- $(3, 1)$, $(1, 0)$ and $(\frac{1}{3}, -1)$

A

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Math_FT_Sem

Total questions in exam: 40 | Answered: 13

Question No. 18

Which of the following points are on the graph of $f(x) = 4 + 2\log_3(1 - 2x)$?

- $(0, 4)$, $(-1, 6)$ and $(\frac{1}{3}, -2)$
- $(3, 1)$, $(1, 0)$ and $(\frac{4}{3}, -1)$
- $(0, 4)$, $(-1, 6)$ and $(\frac{1}{3}, 2)$
- $(0, 6)$, $(-1, 4)$ and $(\frac{1}{3}, 2)$

C

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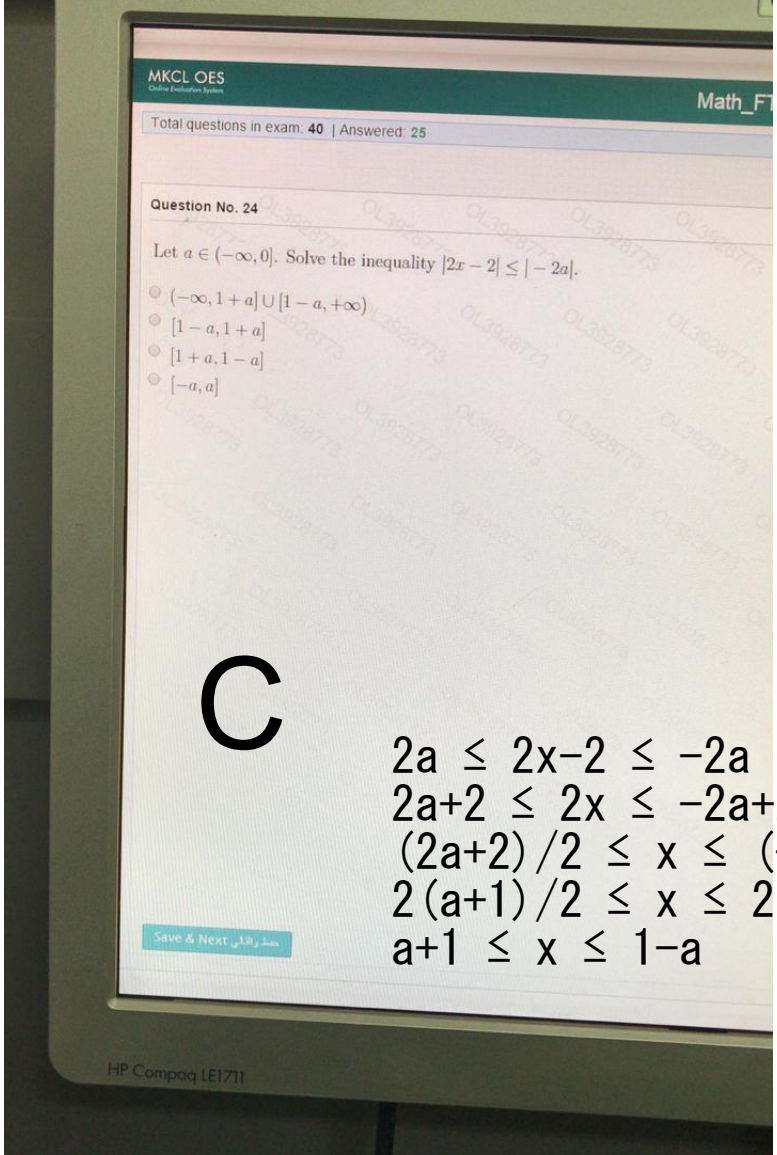
Question No. 24

Let a and b be nonzero real numbers. Find the inverse of the function $f(x) = \frac{a+bx}{b-ax}$.

- $f^{-1}(x) = \frac{bx-a}{ax-b}$
- $f^{-1}(x) = \frac{bx+a}{ax+b}$
- $f^{-1}(x) = \frac{ax+b}{bx-a}$
- $f^{-1}(x) = \frac{bx-a}{ax+b}$

D


MKCL OES
Math_FT
Total questions in exam: 40 | Answered: 25
Question No. 24
Let $a \in (-\infty, 0]$. Solve the inequality $|2x-2| \leq |-2a|$.
$(-\infty, 1+a] \cup [1-a, +\infty)$
$[1-a, 1+a]$
$[1+a, 1-a]$
$[-a, a]$
C
2a ≤ 2x-2 ≤ -2a
2a+2 ≤ 2x ≤ -2a+2
(2a+2)/2 ≤ x ≤ (-2a+2)/2
2(a+1)/2 ≤ x ≤ 2(-a+1)/2
a+1 ≤ x ≤ 1-a
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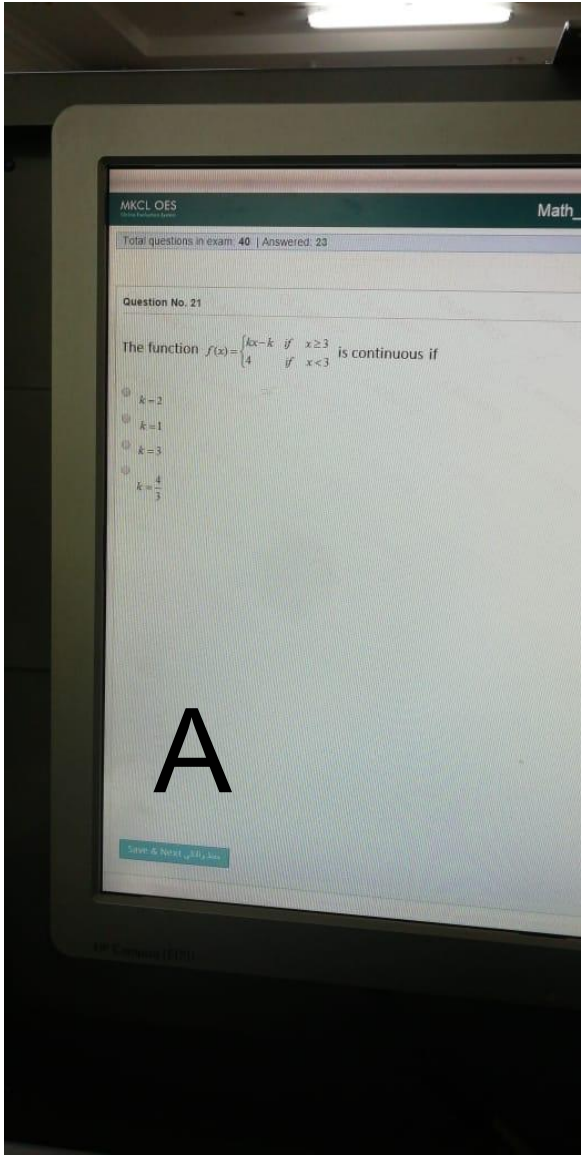

kx-k = 4
k (3) - k = 4
k (3-1) = 4
2k = 4 , k= 2

estion No. 4

ssume that $z = -3 + 4i$ and $zw = -14 + 2i$. Find the value of w in the form $a + bi$, where $a, b \in \mathbb{R}$

$w = 2 + 2i$
$w = 50 - 50i$
$w = 2 - 2i$
$w = 50 + 50i$

A

By calculator
zw/z = w
(-14+2i)/(-3+4i)

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Question No. 11

If $\sin\theta = \frac{4}{5}$ then $\cot\theta =$,where $0^{\circ}<\theta<90^{\circ}$

- $\frac{4}{3}$
- $\frac{3}{5}$
- $\frac{5}{3}$
- $\frac{3}{4}$

D

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Online Evaluation System

Total questions in exam: **40** | Answered: **19**

Question No. 30

If $f(x)=x^3+2x^2-1$ then $f(a^4)=$

- a^9-1
- $a^{12}+2a^8-1$
- $a+2a^{-1}-1$
- a^7+2a^6-1

B

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Question No. 11

If $f(x)=(x-1)^2$ then $f(a^3)=$

- a^6-2a^3+1
- a^2+2a-1
- a^6+a+2
- $3a^2+2a-1$

A

MKCL OES
Online Evaluation System

Math_FT

Total questions in exam: **40** | Answered: **25**

Question No. 24

Let $a \in (-\infty, 0]$. Solve the inequality $|2x - 2| \leq |-2a|$.

- $(-\infty, 1+a] \cup [1-a, +\infty)$
- $[1-a, 1+a]$
- $[1+a, 1-a]$
- $[-a, a]$

C

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MKCL OES

Total questions in exam: 40 | Answered: 7

Question No. 27

If $f(x) = -\frac{1}{3}x + 1$, the domain of $f^{-1}(x)$ is

- $[-3,1)$
- $[-\frac{1}{3},1)$
- $[0,\infty)$
- all real numbers

D

Question No. 37

Let $a > 1$. The solution set of the equation $\log_x(2x^2 - a^2) = 2$ is

- S = {a, 2a}
- S = {a}
- S = {-a}
- S = {-a, a}

B

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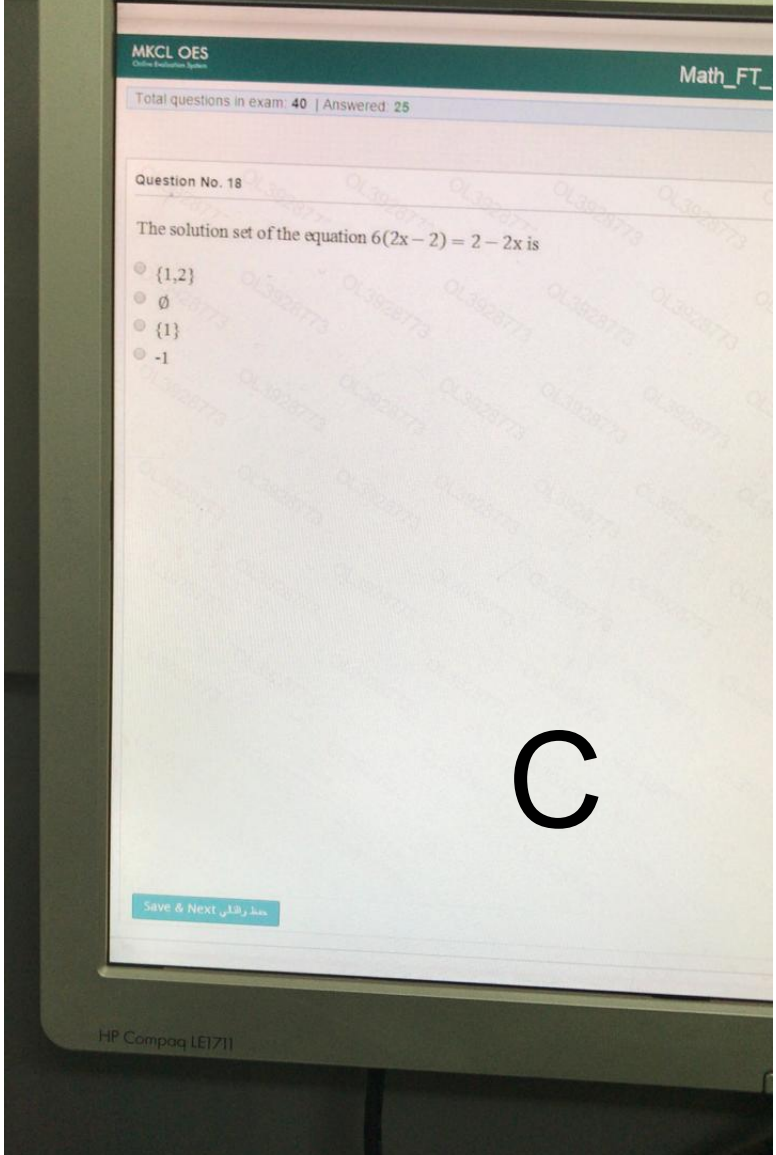

$6(2x-2)=2-2x$
$12x-12=2-2x$
$12x + 2x = 12 +2$
$14x = 14$, $x=1$

Question No. 37

Let $a > 1$. The solution set of the equation $\log_x(2x^2 - a^2) = 2$ is

- S = {a, 2a}
- S = {a}
- S = {−a}
- S = {−a, a}

B

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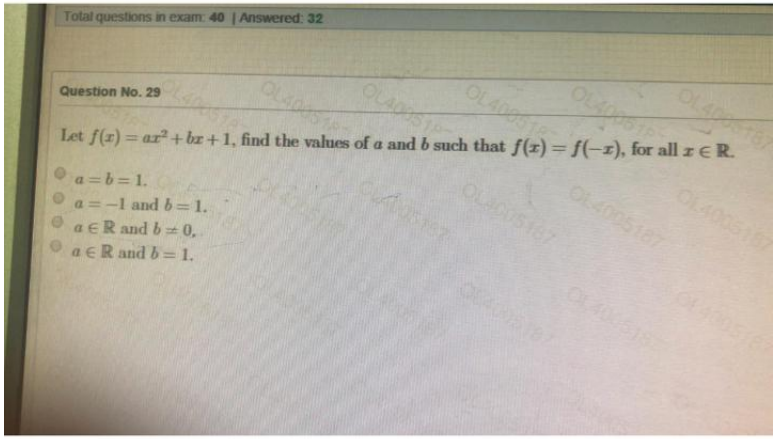

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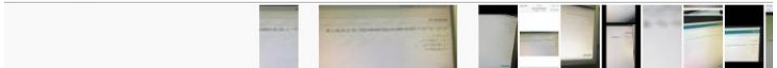


Question No. 11

If $f(x)=(x-1)^2$ then $f(a^3)=$

- a^6-2a^3+1
- a^2+2a-1
- a^6+a+2
- $3a^2+2a-1$

A

Question No. 4

Let $a \in \mathbb{R}$ and $f(x) = 0.9^{(a^2-3a+2)x-1} - a$. Give the condition on a such that $f(x)$ is increasing.

- $a \in (2, \infty)$
- $a \in (-\infty, 1)$
- $a \in (1, 2)$
- $a \in (-\infty, 1] \cup [2, \infty)$

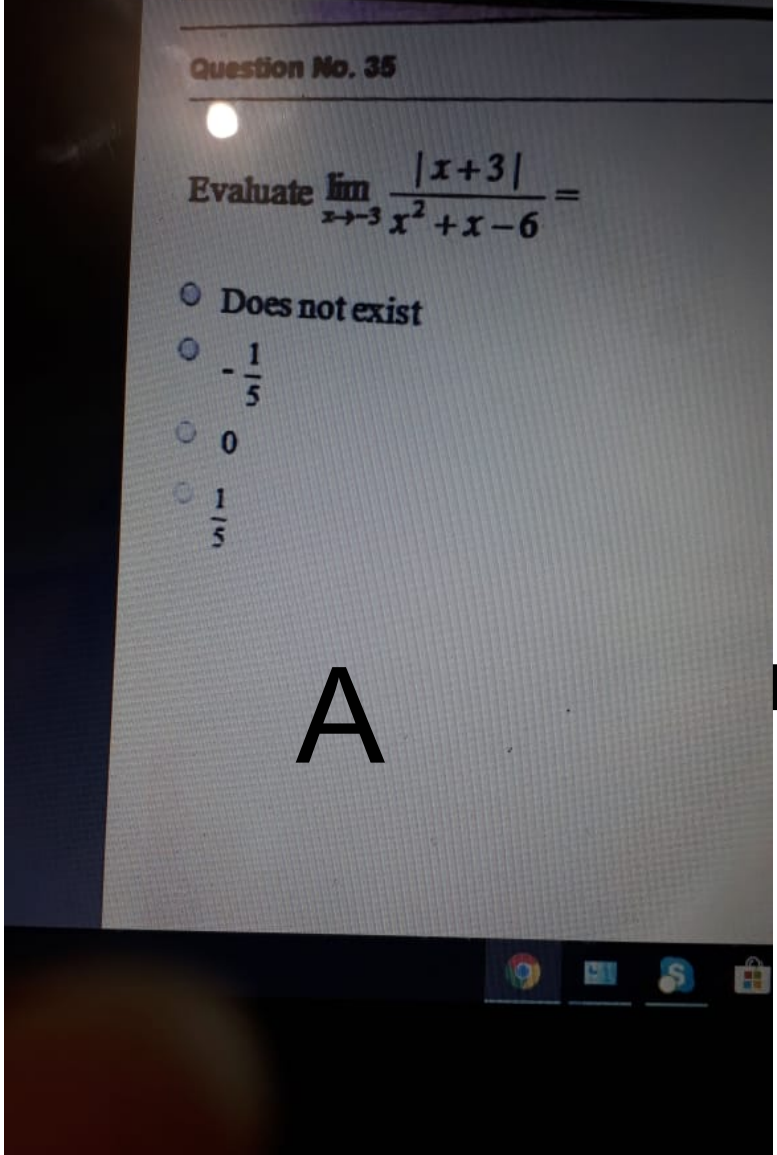
C

Question No. 36

The solution set of the equation $(\sqrt{2})^{3-5x} = 4^{a+x}$ is

- $\{\frac{1}{2} - \frac{1}{6}a\}$
- $\{\frac{3}{2} - \frac{2}{7}a\}$
- $\{\frac{1}{3} - \frac{4}{9}a\}$
- $\{3 + \frac{4}{9}a\}$

C



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Question No. 35

If a function $f(x)$ has an inverse function and $f(-2) = 11$, then

- $f^{-1}(11) = -1$
- $f^{-1}(-2) = -11$
- $f^{-1}(11) = -2$
- $f^{-1}(2) = -11$

C

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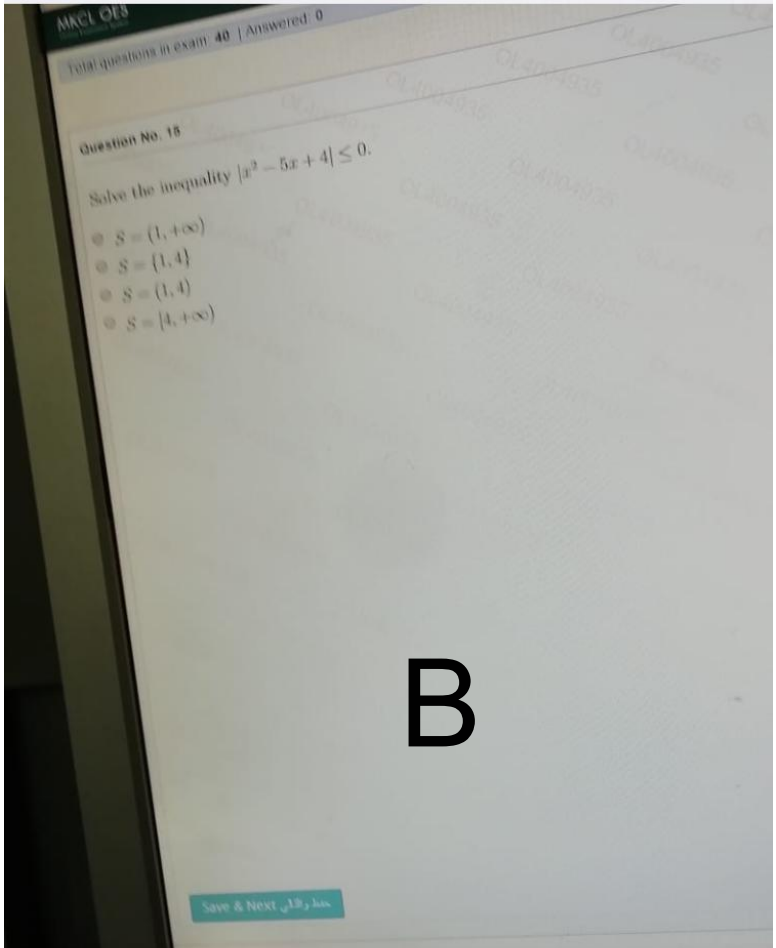
MKCL QES
Total questions in exam: 40 | Answered: 0
Question No. 15
Solve the inequality $|x^2 - 5x + 4| \leq 0$.
$S = (1, +\infty)$
$S = \{1, 4\}$
$S = (1, 4)$
$S = [4, +\infty)$
B
Save & Next

Total questions in exam: 40 | Answered: 32

Question No. 29

Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.

- $a = b = 1$.
- $a = -1$ and $b = 1$.
- $a \in \mathbb{R}$ and $b \neq 0$.
- $a \in \mathbb{R}$ and $b = 1$.

C

Total questions in exam: 40 | Answered: 31

Question No. 2

Let $a \in \mathbb{R}$. If the solution set of the inequality $|4x-8|+a>0$ is $(-\infty,2)\cup(2,+\infty)$ then

- a = 1
- a = 0
- a = 2
- a = −1

B

- x = -3
- x = -1
- y = -3
- y = -1

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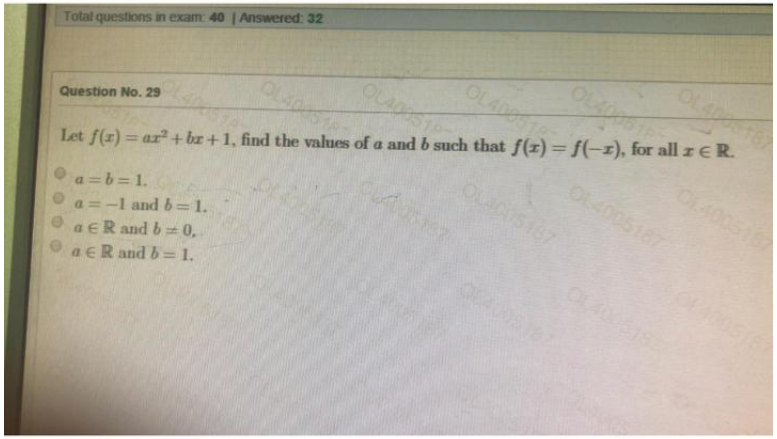
Total questions in exam: 40 | Answered: 32
Question No. 29
Let $f(x) = ax^2 + bx + 1$, find the values of a and b such that $f(x) = f(-x)$, for all $x \in \mathbb{R}$.
$a = b = 1$.
$a = -1$ and $b = 1$.
$a \in \mathbb{R}$ and $b \neq 0$.
$a \in \mathbb{R}$ and $b = 1$.

C

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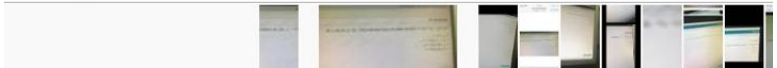

- x = -3
- x = -1
- y = -3
- y = -1

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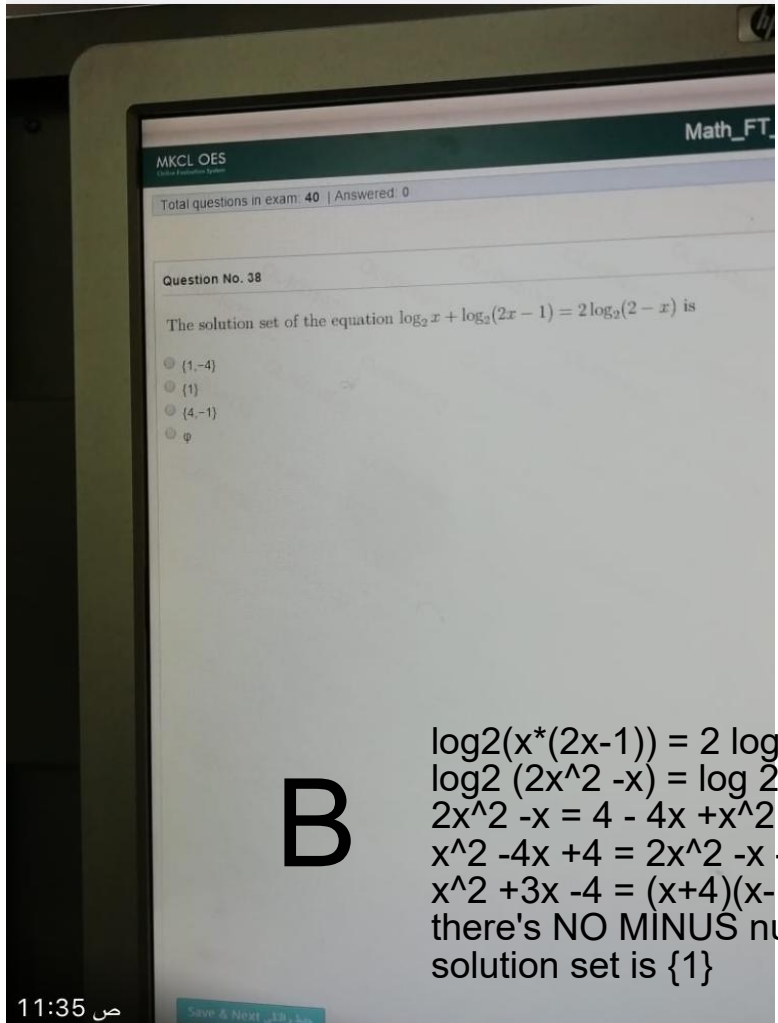
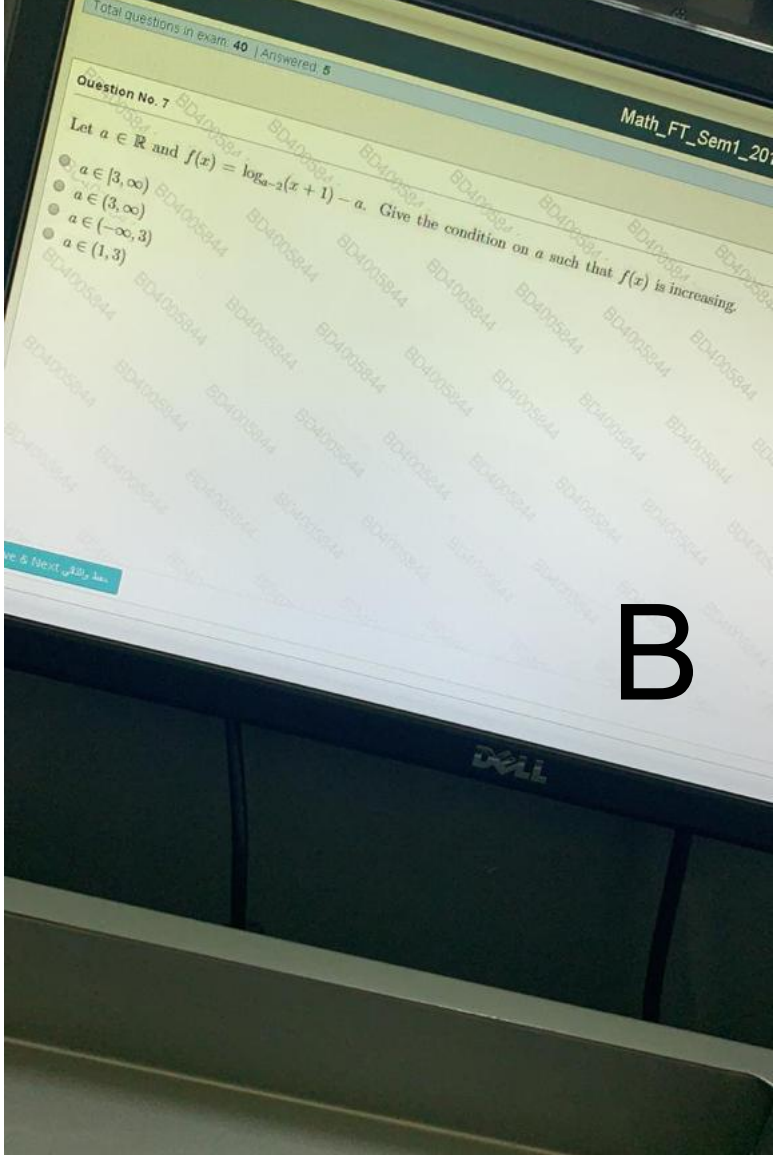
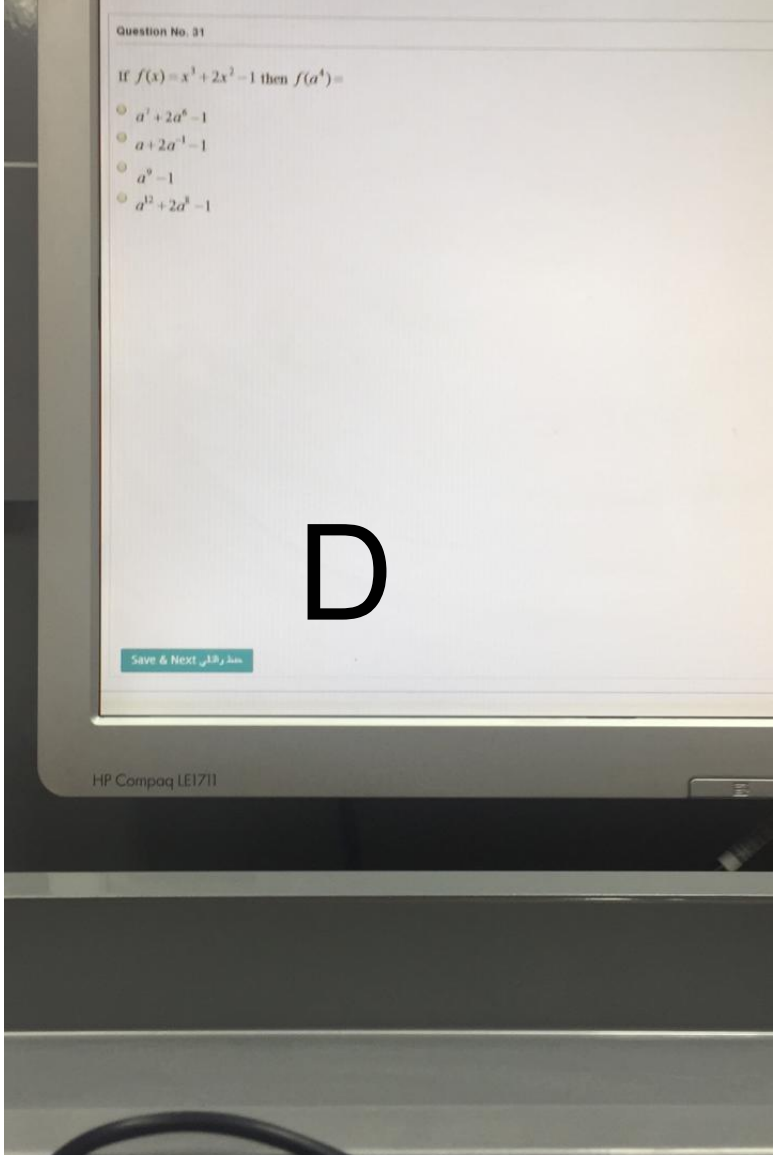


B

log2(x*(2x-1)) = 2 log2 (2-x)
log2 (2x^2 -x) = log 2 (2-x)^2
2x^2 -x = 4 - 4x +x^2 , (x-y)^2 property
x^2 -4x +4 = 2x^2 -x -> 2x^2 - x^2 -x +4x -4
x^2 +3x -4 = (x+4)(x-1) , x=-4 , x=1
there's NO MINUS number in log so the solution set is {1}


Total questions in exam: 40 | Answered: 8
Question No. 7
Math_FT_Sem1_20
Let $a \in \mathbb{R}$ and $f(x) = \log_{a-2}(x+1) - a$. Give the condition on a such that $f(x)$ is increasing.
$a \in [3, \infty)$
$a \in (3, \infty)$
$a \in (-\infty, 3)$
$a \in (1, 3)$
B


Question No. 31
If $f(x)=x^3+2x^2-1$ then $f(a^4)=$
a^7+2a^6-1
$a+2a^{-1}-1$
a^9-1
$a^{12}+2a^8-1$
D
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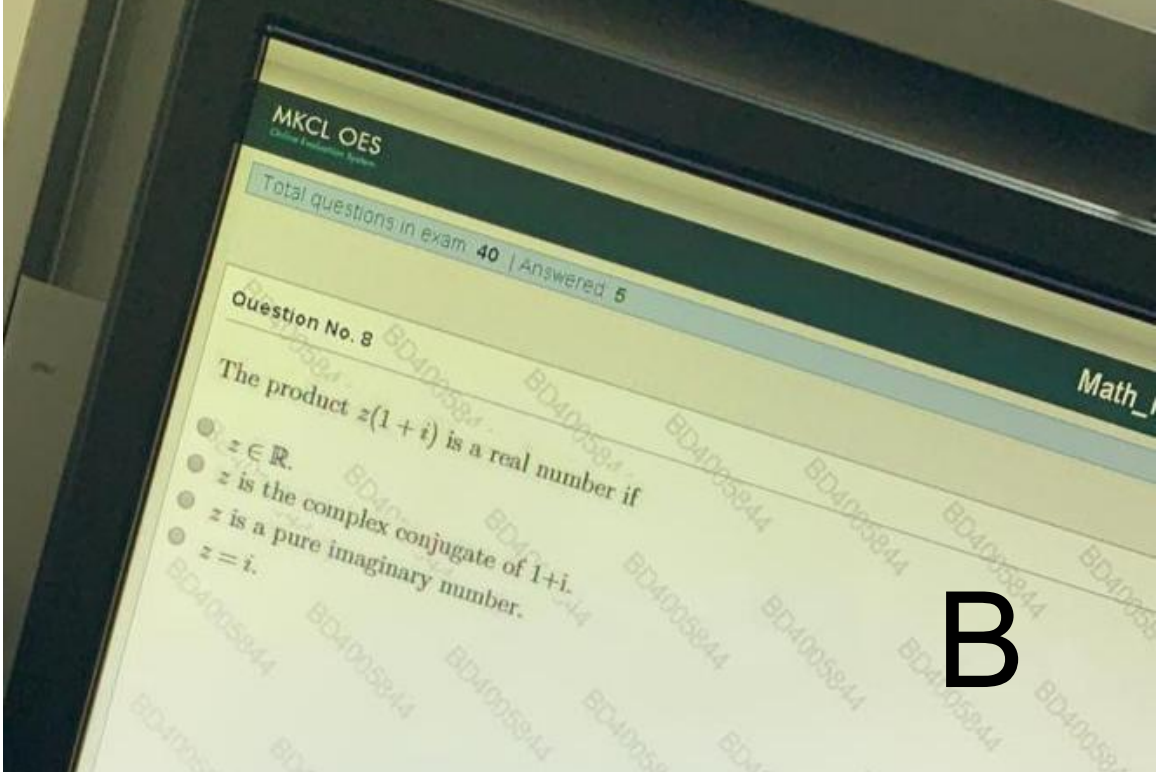
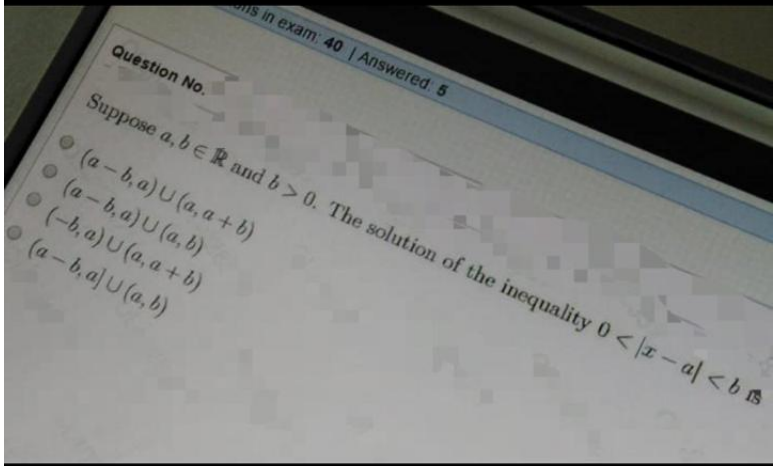
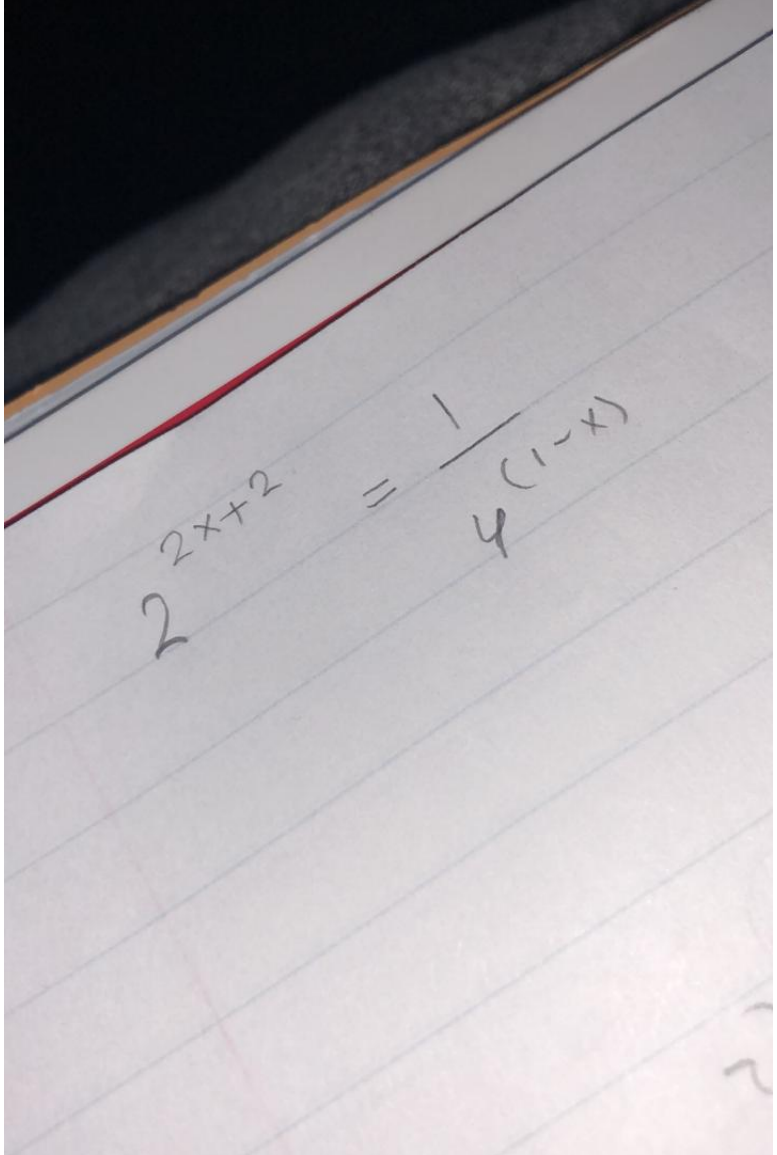

MKCL OES
Total questions in exam: 40 | Answered: 5
Question No. 8
The product $z(1+i)$ is a real number if
$z \in \mathbb{R}$.
z is the complex conjugate of 1+i.
z is a pure imaginary number.
$z = i$.
B


ns in exam: 40 | Answered: 5
Question No.
Suppose $a, b \in \mathbb{R}$ and $b > 0$. The solution of the inequality $0 < |x - a| < b$ is
$(a - b, a) \cup (a, a + b)$
$(a - b, a) \cup (a, b)$
$(-b, a) \cup (a, a + b)$
$(a - b, a] \cup (a, b)$

A


$2^{2x+2} = \frac{1}{4^{(1-x)}}$

Total questions in exam: 40 | Answered: 0

Question No. 22

The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if

- k=-1
- k=1
- k=0
- k=2

D

Question No. 37

Let $a > 1$. The solution set of the equation $\log_x(2x^2 - a^2) = 2$ is

- S = {a, 2a}
- S = {a}
- S = {−a}
- S = {−a, a}

B

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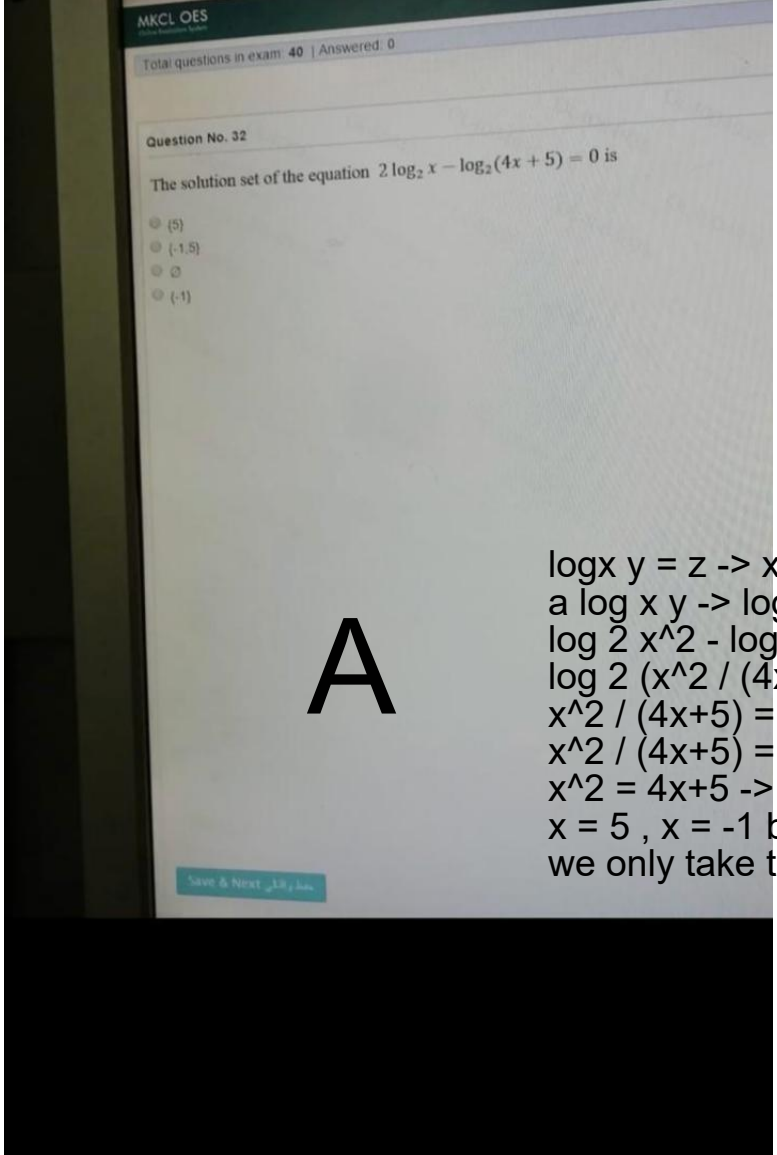

A

logx y = z -> x^z=y
a log x y -> log x y^a
log 2 x^2 - log2 (4x+5) = 0
log 2 (x^2 / (4x+5) = 0
x^2 / (4x+5) = 2^0
x^2 / (4x+5) = 1 (multiply by 4x+5)
x^2 = 4x+5 -> x^2 -4x -5 = (x+1)(x-5)
x = 5 , x = -1 becuse it's a logaritm so we only take the positive number (5)

Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

C

Total questions in exam: 40 | Answered: 0

Question No. 12

Let a be an integer. Give all values of a such that the function F is a one-to-one function.

$$F = \{(7,-1),(5,1-a),(0,5),(-2,a),(1,3)\}$$

- $a \in \mathbb{R}\backslash\{-1,5,3,2\}$
- $a \in \mathbb{R}\backslash\{-1,5,3,2,-4,-2\}$
- $a \in \mathbb{R}\backslash\{5,3,2\}$
- $a \in \{1,5,-2\}$

B

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Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

C

Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

C

Question No. 13

Use the square root property to solve this quadratic equation

$$x^2 + 20 = 4$$

- $\pm 4i$
- $\sqrt{16}$
- -4
- $\pm\sqrt{24}$

A

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Question No. 19

Evaluate $\lim_{x \to -\infty} \frac{x+5}{2x+3} =$

- $\frac{5}{3}$
- 0
- $\frac{1}{2}$
- ∞

C

Question No. 20

The solution set of the equation $3(x+3) = 3x - 9$ is

- the set of real numbers
- $\{2,3\}$
- 1
- $\emptyset$

D

MKCL OES

Math_FT_

Total questions in exam: 40 | Answered: 0

Question No. 21

Let $U = \{0,1,2,3,4,5,6,7,9\}$, and $A = \{1,3,5,7\}$ the complement of A is

- $\{1,3,5,7\}$
- $\{0,2,4,6,9\}$
- $\emptyset$
- $\{1,2,3,4,5,6,7\}$

B

Question No. 14

Evaluate $\lim_{x \to -\infty} \frac{x^4+2x^2-1}{x^3-2x-2} =$

- -1
- 0
- $-\infty$
- 1

C

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Total questions in exam: 40 | Answered: 0

Question No. 22

The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if

- k=-1
- k=1
- k=0
- k=2

D

Question No. 15

The graph of $f(x) = -3x^2 + x + 4$ is

- Open left
- Open right
- Open down
- Open up

C

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Question No. 23

Evaluate $\lim_{x \to -3} \frac{|x+3|}{x+3}$

- 0
- 2
- 1
- Does not exist

D

Total questions in exam: **40** | Answered: **0**

Question No. 24

If x-2 is a factor of the polynomial f(x) then

- $f(-2) = 0$
- $f(2) = 0$
- $f(0) = -2$
- $f(0) = 2$

B

Total questions in exam: 40 | Answered: 0

Question No. 25

Given that $f(x) = \log_{\frac{1}{2}}(x+2)$, then $f(2) =$

- $\frac{1}{4}$
- $\frac{1}{2}$
- 2
- -2

D

Question No. 26

Let $x \in \mathbb{R}$ and z be a complex number. Give the value of x that mal

$$z = (3x - \sqrt{5}) + (x + 1)i - 2$$

- $x = \frac{2-\sqrt{5}}{3}$
- $x = -\frac{\sqrt{5}}{3}$
- $x = \frac{2+\sqrt{5}}{3}$
- $x = \frac{\sqrt{5}}{3}$

C

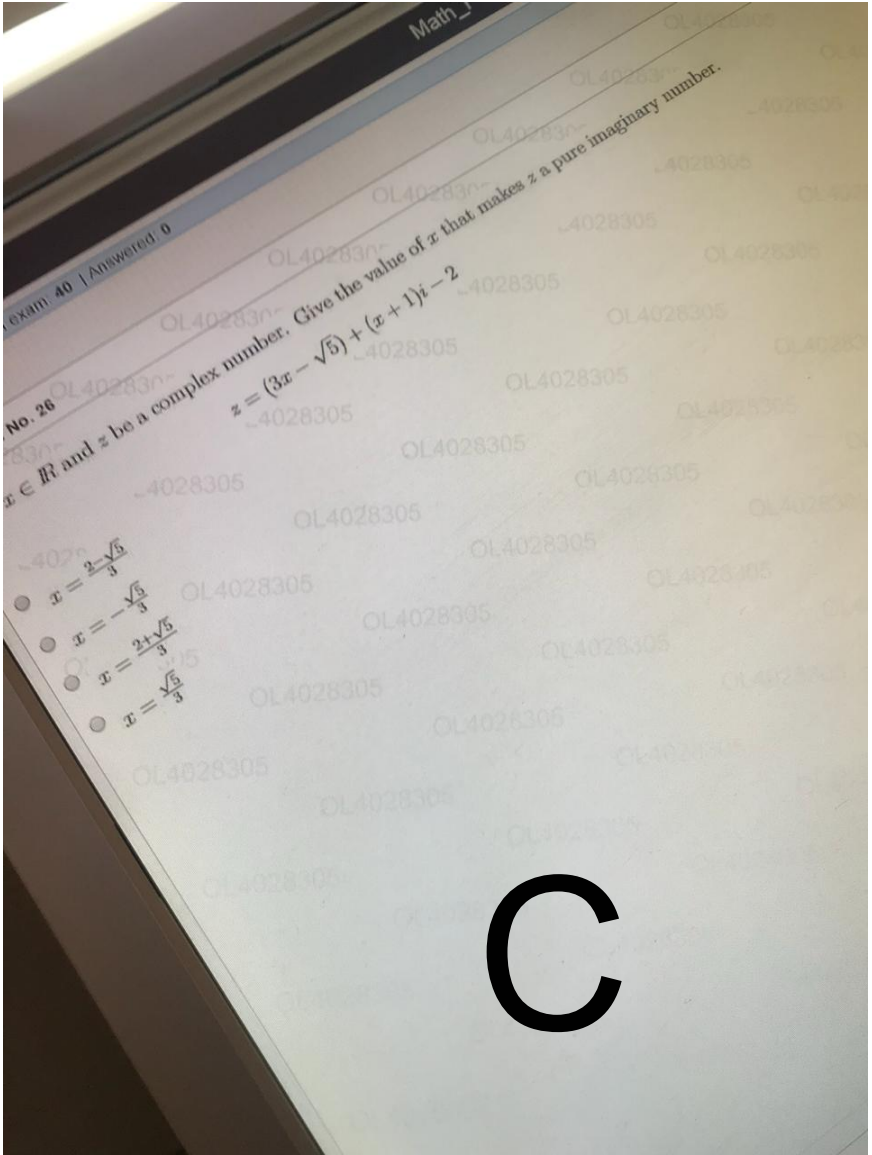
Total questions in exam: 40 | Answered: 0

Question No. 16

Evaluate $\lim_{x \to -3} \frac{x^2 + 7x + 12}{x + 3} =$

- 4
- 1
- -3
- 0

B


Math_
Exam 40 | Answered: 0
No. 26
$x \in \mathbb{R}$ and z be a complex number. Give the value of x that makes z a pure imaginary number.
$z = (3x - \sqrt{5}) + (x+1)i - 2$
$x = \frac{2-\sqrt{5}}{3}$
$x = -\frac{\sqrt{5}}{3}$
$x = \frac{2+\sqrt{5}}{3}$
$x = \frac{\sqrt{5}}{3}$
C

Total questions in exam: 40 | Answered: 0

Question No. 17

The domain of the function $f(x) = e^{x^2-3x+1} - 2$ is:

- $\mathbb{R}$
- $(0, \infty)$
- $(-1, \infty)$
- $(-\infty, 0)$

A

Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

C

Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

C

Question No. 18

The function has an inverse if

- None of these answers
- doesn't satisfy the horizontal line test
- it is one-to-one
- it is quadratic

C

Question No. 19

Evaluate $\lim_{x \to -\infty} \frac{x+5}{2x+3} =$

- $\frac{5}{3}$
- 0
- $\frac{1}{2}$
- ∞

C

Question No. 20

The solution set of the equation $3(x+3) = 3x - 9$ is

- the set of real numbers
- $\{2,3\}$
- 1
- $\emptyset$

D

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Math_FT_

Total questions in exam: 40 | Answered: 0

Question No. 21

Let U = {0,1, 2, 3, 4, 5, 6, 7,9}, and A = {1, 3, 5, 7} the complement of A is

- {1, 3, 5, 7}
- {0,2, 4, 6,9}
- ∅
- {1, 2, 3, 4, 5, 6, 7}

B

Total questions in exam: 40 | Answered: 0

Question No. 22

The function $f(x)=\begin{cases} x^4 & \text{if } x\le 1 \\ k-x^4 & \text{if } x>1 \end{cases}$ is continuous if

- k=-1
- k=1
- k=0
- k=2

D

Question No. 23

Evaluate $\lim_{x \to -3} \frac{|x+3|}{x+3}$

- 0
- 2
- 1
- Does not exist

D

Total questions in exam: **40** | Answered: **0**

Question No. 24

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- $f(2) = 0$
- $f(0) = -2$
- $f(0) = 2$

B

Question No. 25

Given that $f(x) = \log_{\frac{1}{2}}(x+2)$, then $f(2) =$

- $\frac{1}{4}$
- $\frac{1}{2}$
- 2
- -2

D

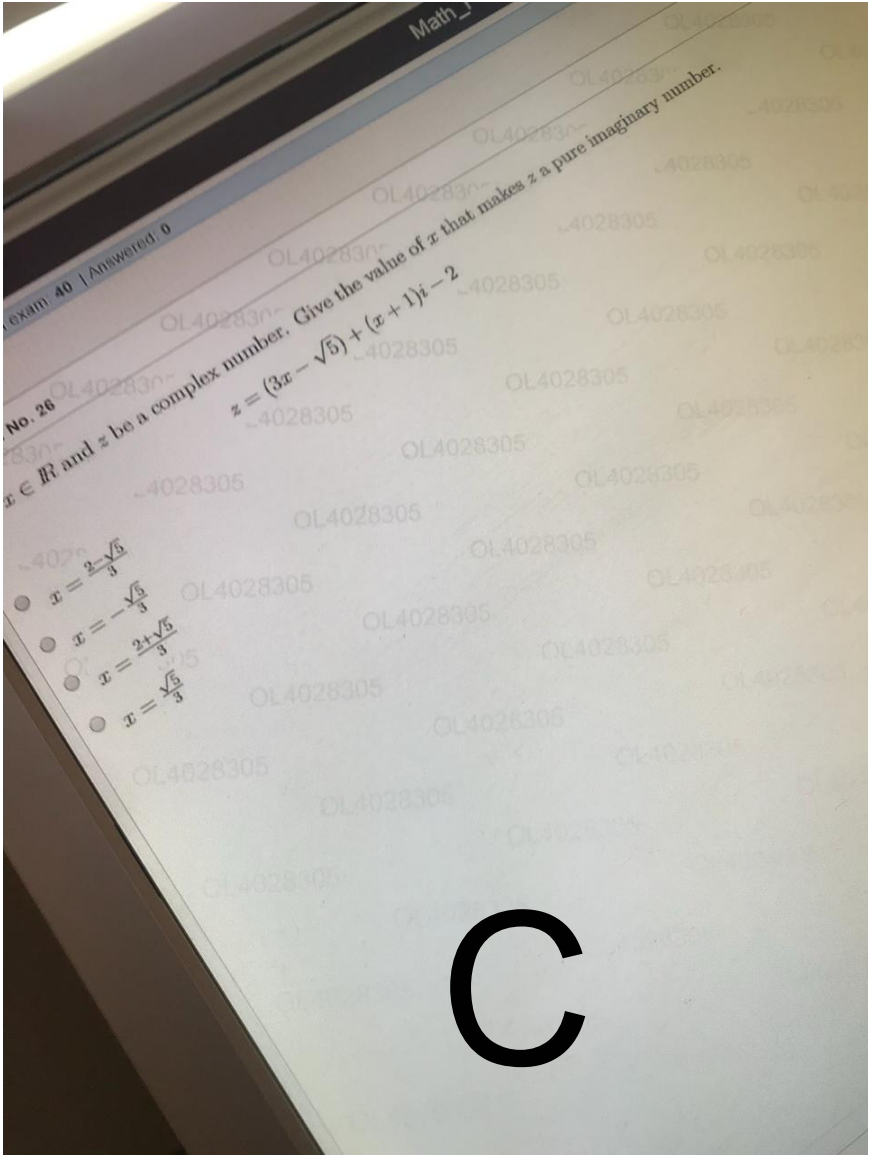
Question No. 26

Let $x \in \mathbb{R}$ and z be a complex number. Give the value of x that mal

$$z = (3x - \sqrt{5}) + (x + 1)i - 2$$

- $x = \frac{2-\sqrt{5}}{3}$
- $x = -\frac{\sqrt{5}}{3}$
- $x = \frac{2+\sqrt{5}}{3}$
- $x = \frac{\sqrt{5}}{3}$

C


Math_
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$z = (3x - \sqrt{5}) + (x+1)i - 2$
$x = \frac{2-\sqrt{5}}{3}$
$x = -\frac{\sqrt{5}}{3}$
$x = \frac{2+\sqrt{5}}{3}$
$x = \frac{\sqrt{5}}{3}$
C

Total questions in exam: 40 | Answered: 0

Question No. 12

Let a be an integer. Give all values of a such that the function F is a one-to-one function.

$$F = \{(7,-1),(5,1-a),(0,5),(-2,a),(1,3)\}$$

- $a \in \mathbb{R}\backslash\{-1,5,3,2\}$
- $a \in \mathbb{R}\backslash\{-1,5,3,2,-4,-2\}$
- $a \in \mathbb{R}\backslash\{5,3,2\}$
- $a \in \{1,5,-2\}$

B

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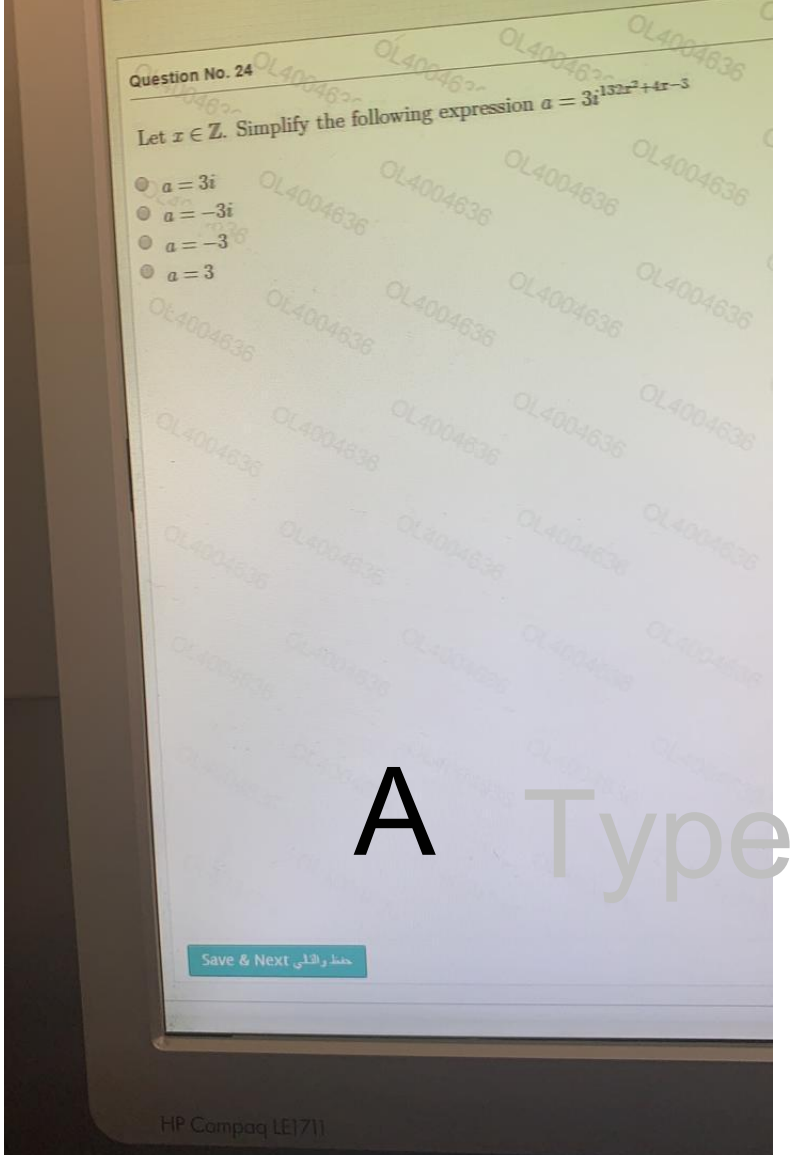
Question No. 24
Let $x \in \mathbb{Z}$. Simplify the following expression $a = 3i^{132x^2+4x-3}$
$a = 3i$
$a = -3i$
$a = -3$
$a = 3$
A
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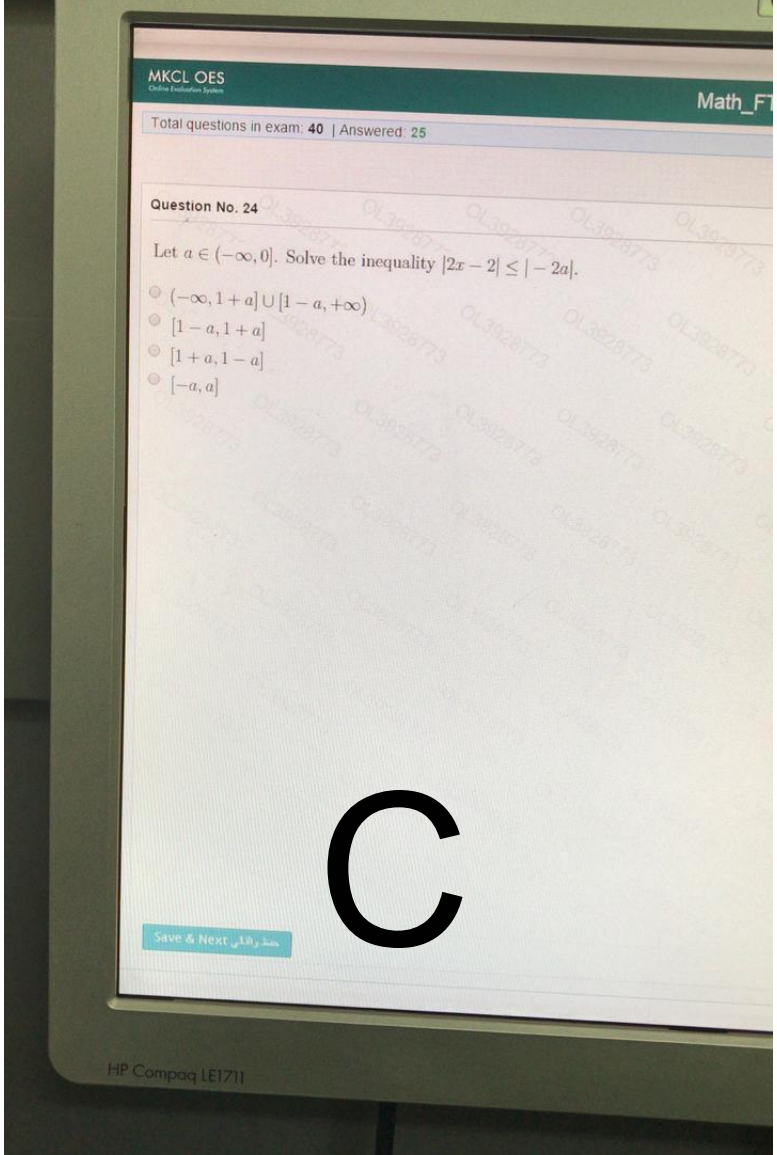
MKCL OES
Online Evaluation System
Math_FT
Total questions in exam: 40 | Answered: 25
Question No. 24
Let $a \in (-\infty, 0]$. Solve the inequality $|2x-2| \leq |-2a|$.
$(-\infty, 1+a] \cup [1-a, +\infty)$
$[1-a, 1+a]$
$[1+a, 1-a]$
$[-a, a]$
C
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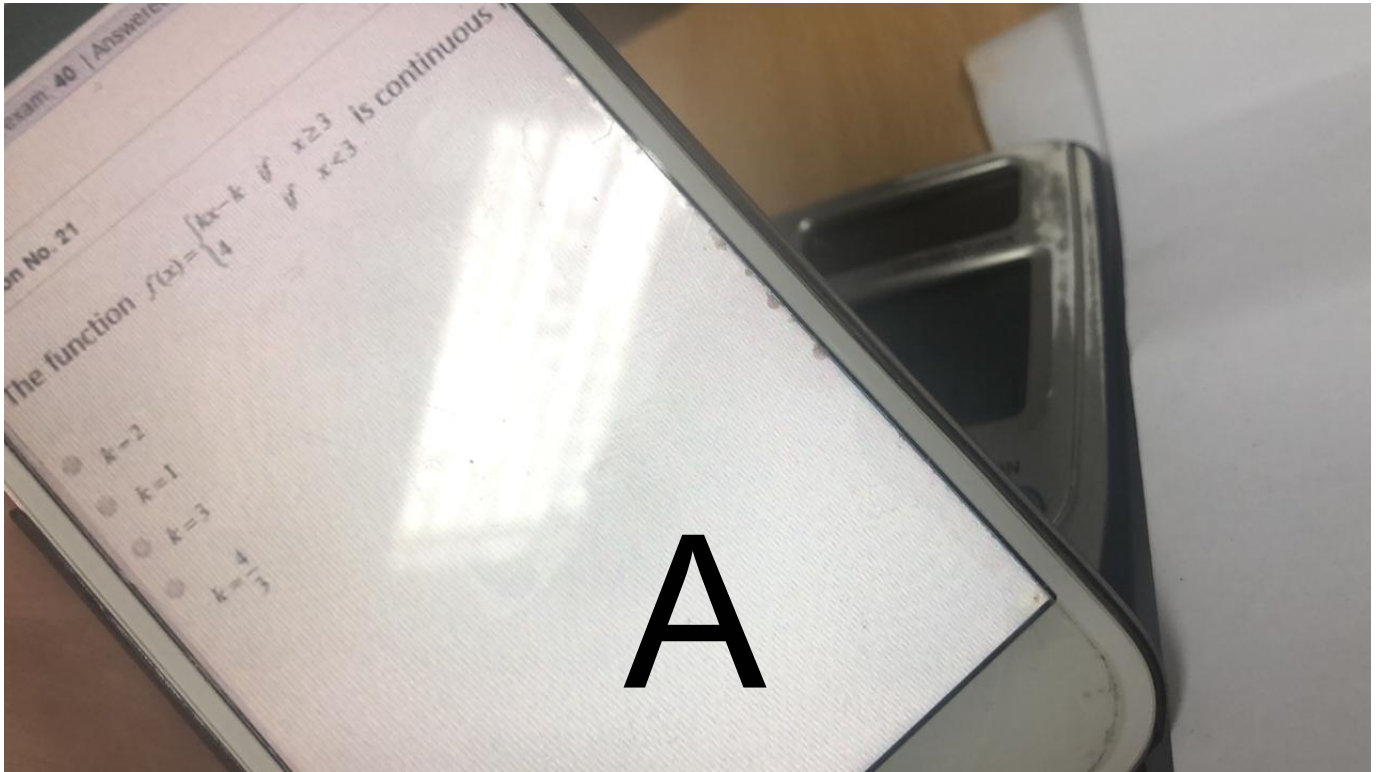
HP Compaq LE1711


Exam: 40 | Answer
on No. 21
The function $f(x)=\begin{cases} kx-k & \text{if } x\geq 3 \\ 4 & \text{if } x<3 \end{cases}$ is continuous
$k=2$
$k=1$
$k=3$
$k=\frac{4}{3}$
A

MKCL OES

Math_FT_Sem1_2018

Total questions in exam: 40 | Answered: 38

Question No. 26

Let $a > 0$ and $f(x) = (a^2-9)x^2+x-a$. Give the value of a such that $f(x)$ is a one-to-one function.

- a = 1
- a = 3
- a = 2
- a = - 3

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B

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MKCL OES

Math_FT_Sem1_2018

Total questions in exam: 40 | Answered: 38

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Let $a > 0$ and $f(x) = (a^2-9)x^2+x-a$. Give the value of a such that $f(x)$ is a one-to-one function.

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- a = 2
- a = - 3

B

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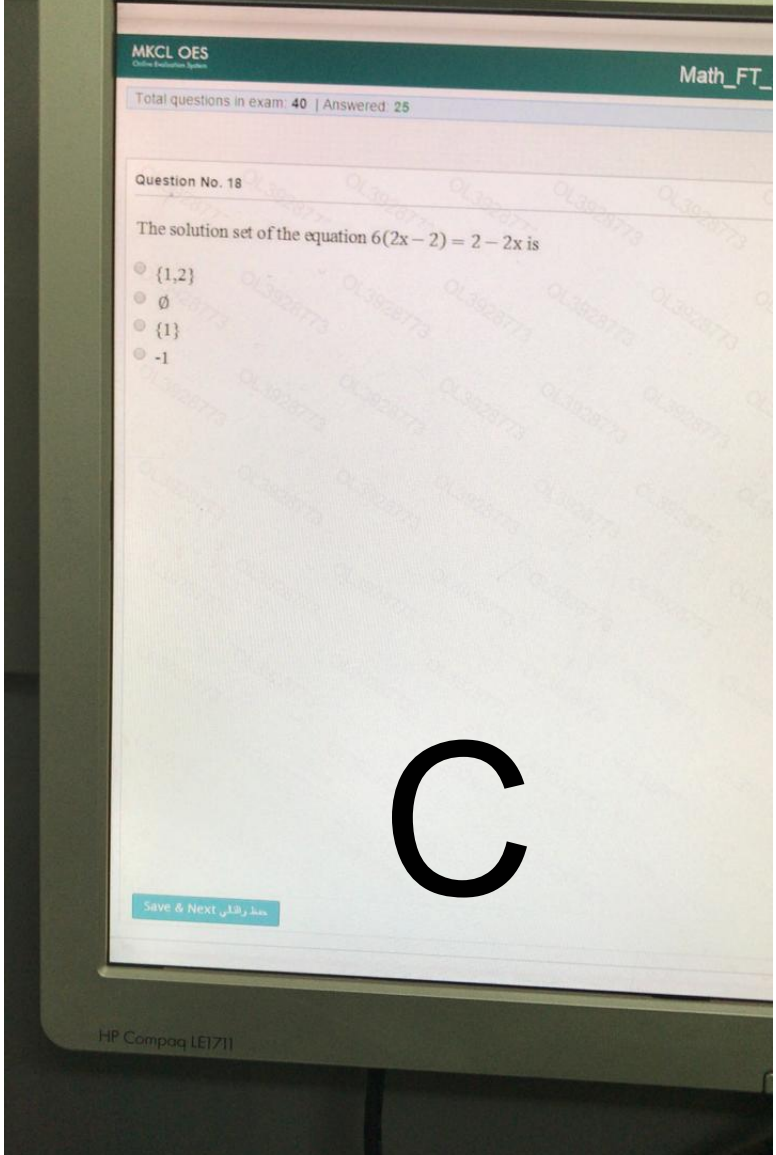
ompaq LE1711


MKCL OES
Math_FT_
Total questions in exam: 40 | Answered: 25
Question No. 18
The solution set of the equation $6(2x-2) = 2-2x$ is
{1,2}
Ø
{1}
-1
C
Save & Next
HP Compaq LE1711


11:35 ص
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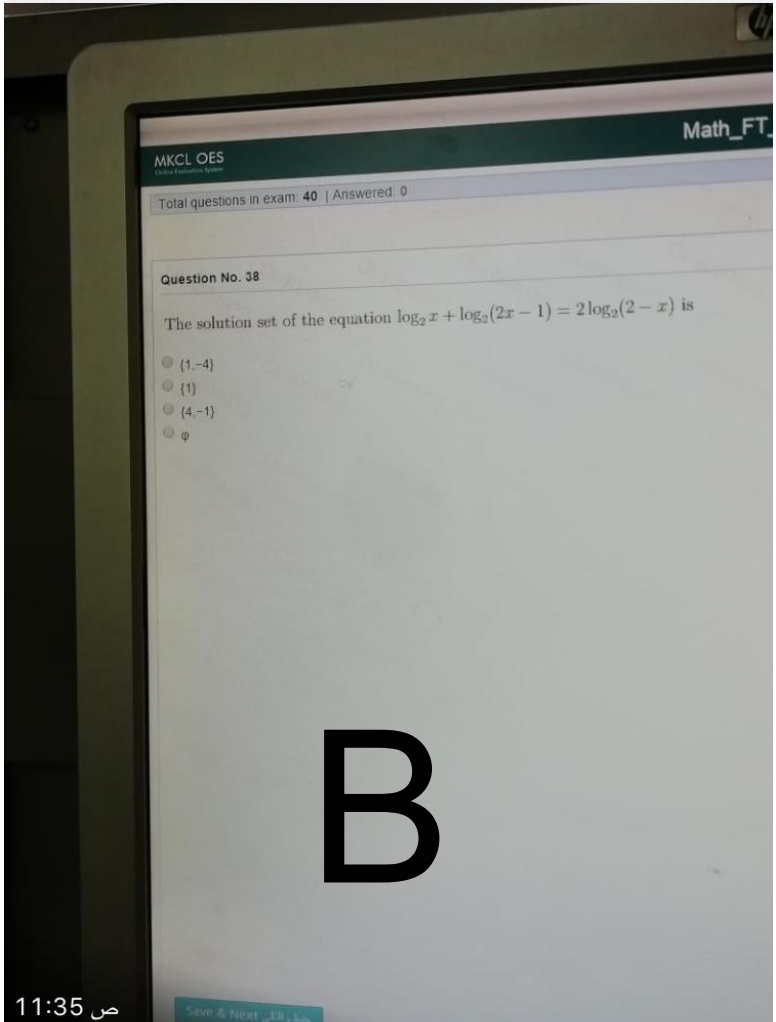
MKCL OES
Math_FT_
Total questions in exam: 40 | Answered: 0
Question No. 38
The solution set of the equation $\log_2 x + \log_2(2x-1) = 2\log_2(2-x)$ is
{1,-4}
{1}
{4,-1}
φ
B
11:35 ص
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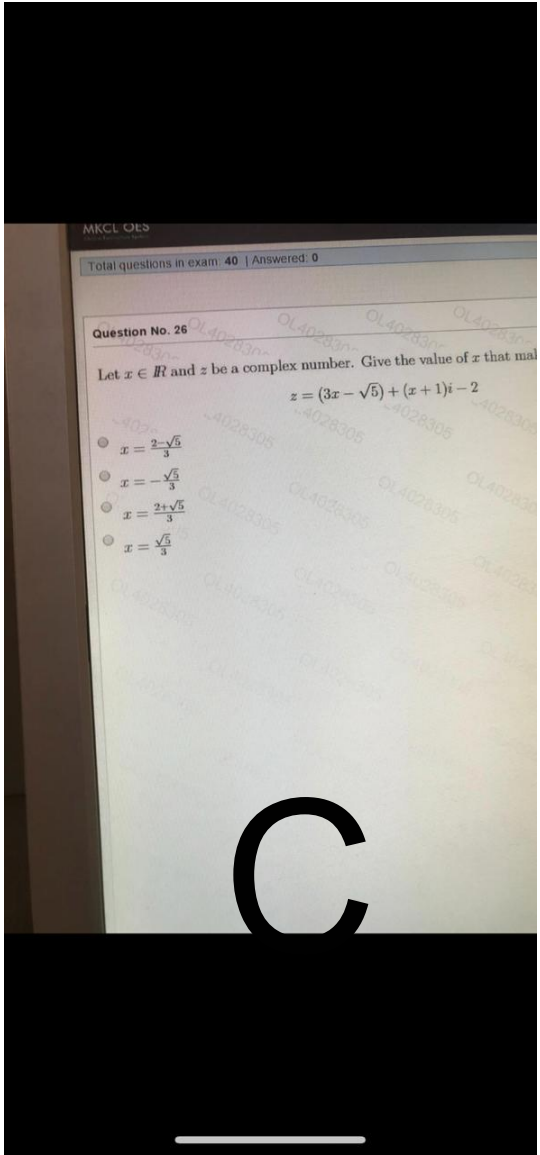
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$x = \frac{2+\sqrt{5}}{3}$
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C

MKCL OES

Math_FT_Sem1_2018

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- a = - 3

B

Save & Next جمع وتالي

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