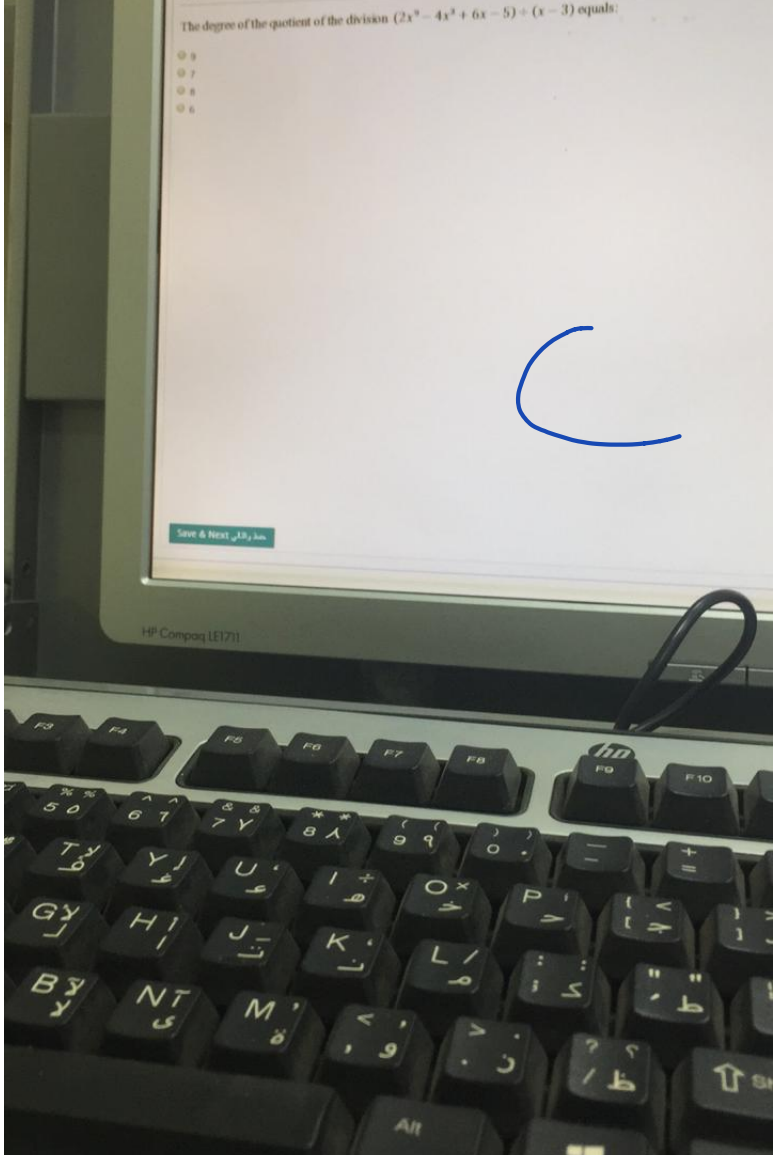
The degree of the quotient of the division $(2x^3 - 4x^2 + 6x - 5) \div (x - 3)$ equals:
9
7
8
6
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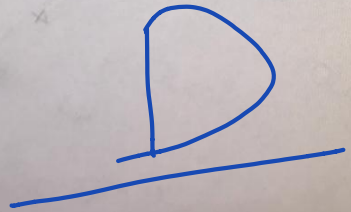
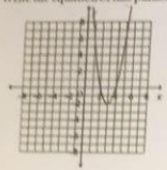
Question No. 10

Which of the following statements is always true.

- The graph of a quadratic function is a straight line.
- The graph of a quadratic function passes through the point (0, 0).
- The range of a quadratic function is the set of all real numbers.
- The axis of symmetry passes through the vertex.



Write the equation of this parabola in vertex form.



- $y = (x-3)^2 - 2$
- $y = 2(x-3)^2 - 2$
- $y = 2(x+3)^2 - 2$
- $y = 2(x+3)^2 + 2$

$y = 2(x-3) - 2$

B

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Question No. 6

If $f(x) = \frac{3}{x-2}$ and $g(x) = \frac{4}{x+5}$. Determine the domain of the product of $f(x)$ and $g(x)$.

- $x \in (-\infty, -5) \cup (2, \infty)$
- $x \in (-\infty, \infty)$
- $x \in (-\infty, -5) \cup (-5, 2) \cup (2, \infty)$
- $x \in (-5, 2)$

ضرب

$$\frac{12}{x^2+5x-2x-10}$$

$$\frac{12}{x^2+3x-10} = \frac{12}{(x-2)(x+5)}$$

Domain $f(x)$:

$\mathbb{R} \setminus \{2, 3\}$

Domain $g(x)$:

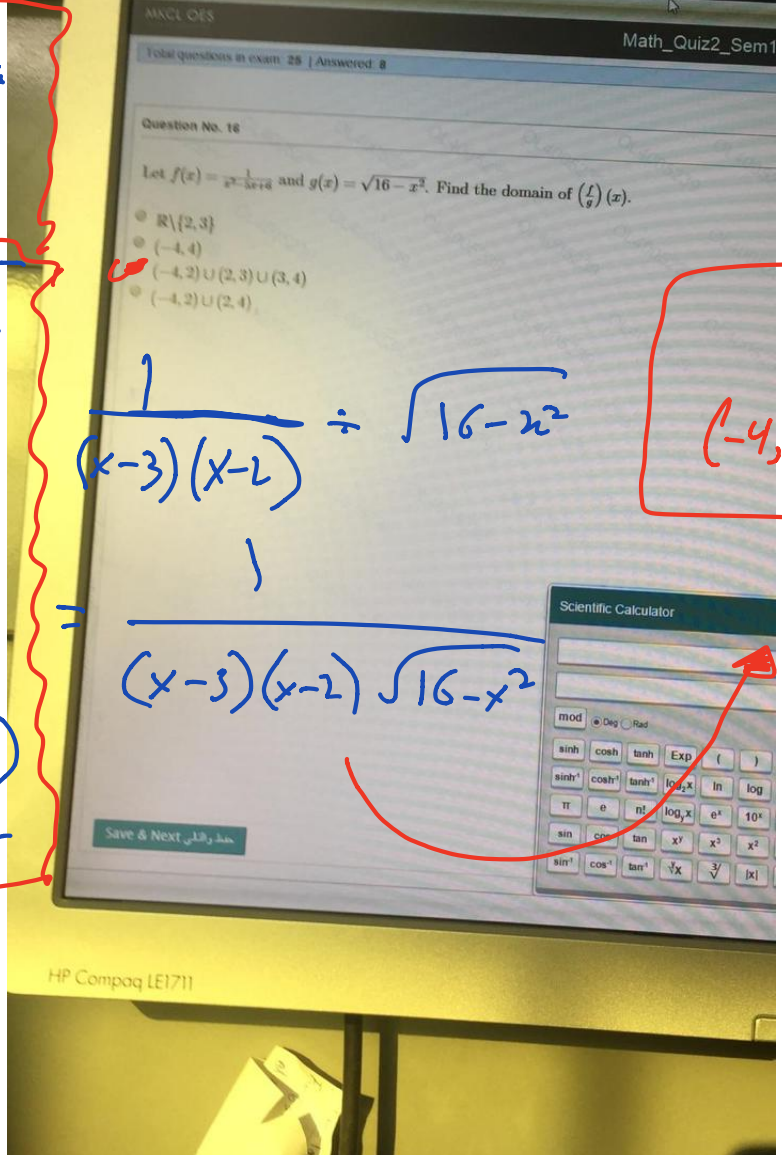
$\sqrt{16 - x^2} > 0$

$16 - x^2 > 0$

$-x^2 > -16$

$x > \pm 4$

Domain: $(-4, 4)$

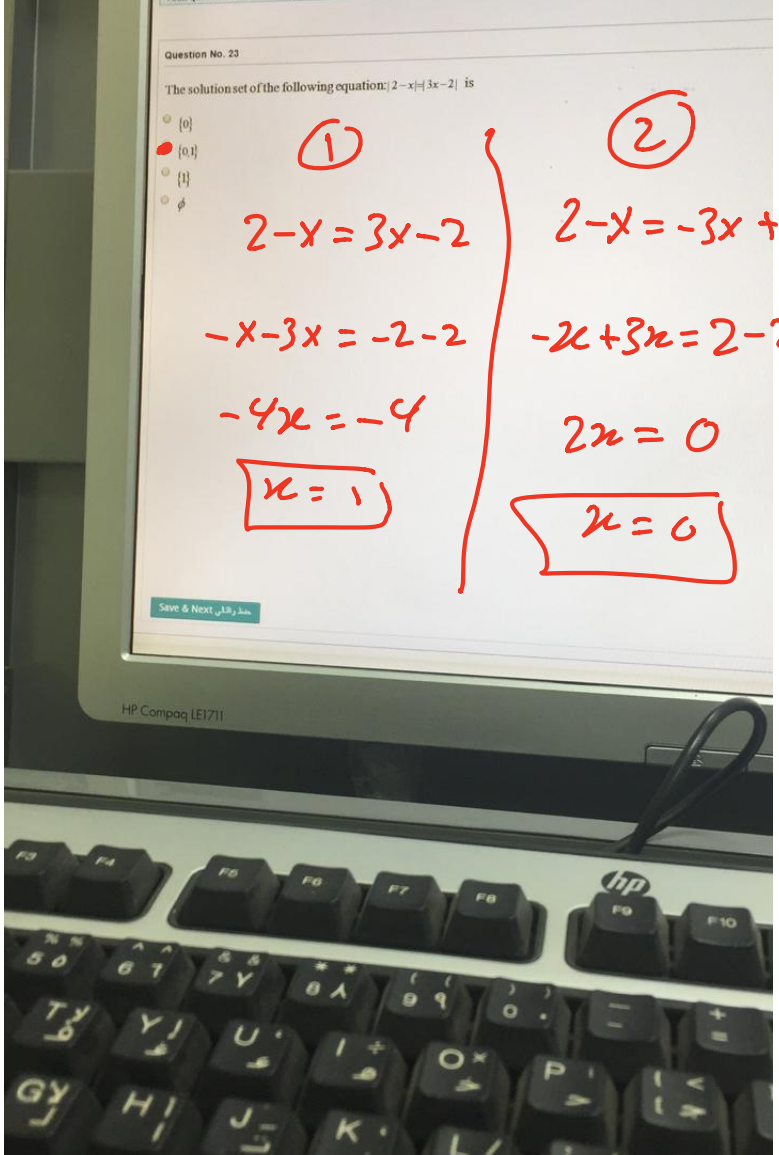


$$\frac{1}{(x-3)(x-2)} \div \sqrt{16-x^2}$$

$$= \frac{1}{(x-3)(x-2)\sqrt{16-x^2}}$$

Domain is:

$(-4, 2) \cup (2, 3) \cup (3, 4)$



(1)

$2-x=3x-2$

$-x-3x=-2-2$

$-4x=-4$

$x=1$

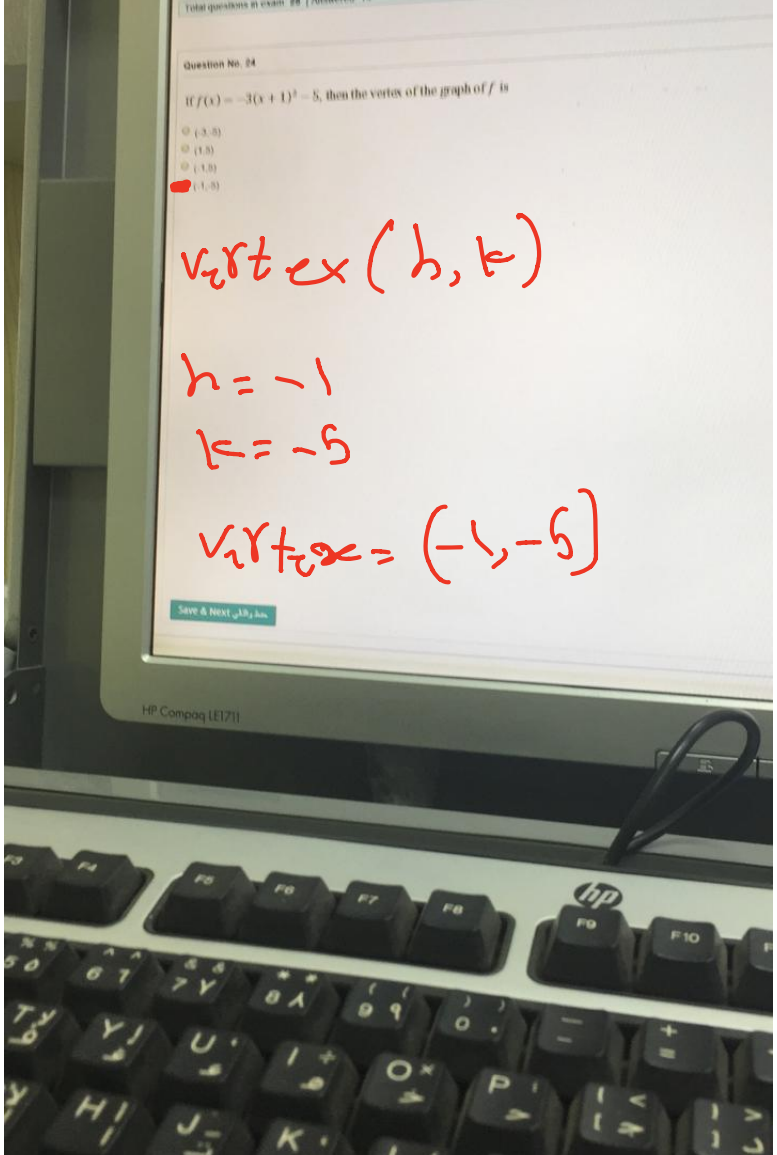
(2)

$2-x=-3x+2$

$-x+3x=2-2$

$2x=0$

$x=0$


Question No. 24
If $f(x) = -3(x+1)^2 - 5$, then the vertex of the graph of f is
(-3,-5)
(1,5)
(-1,5)
(-1,-5)
vertex (h, k)
h = -1
k = -5
vertex = (-1,-5)
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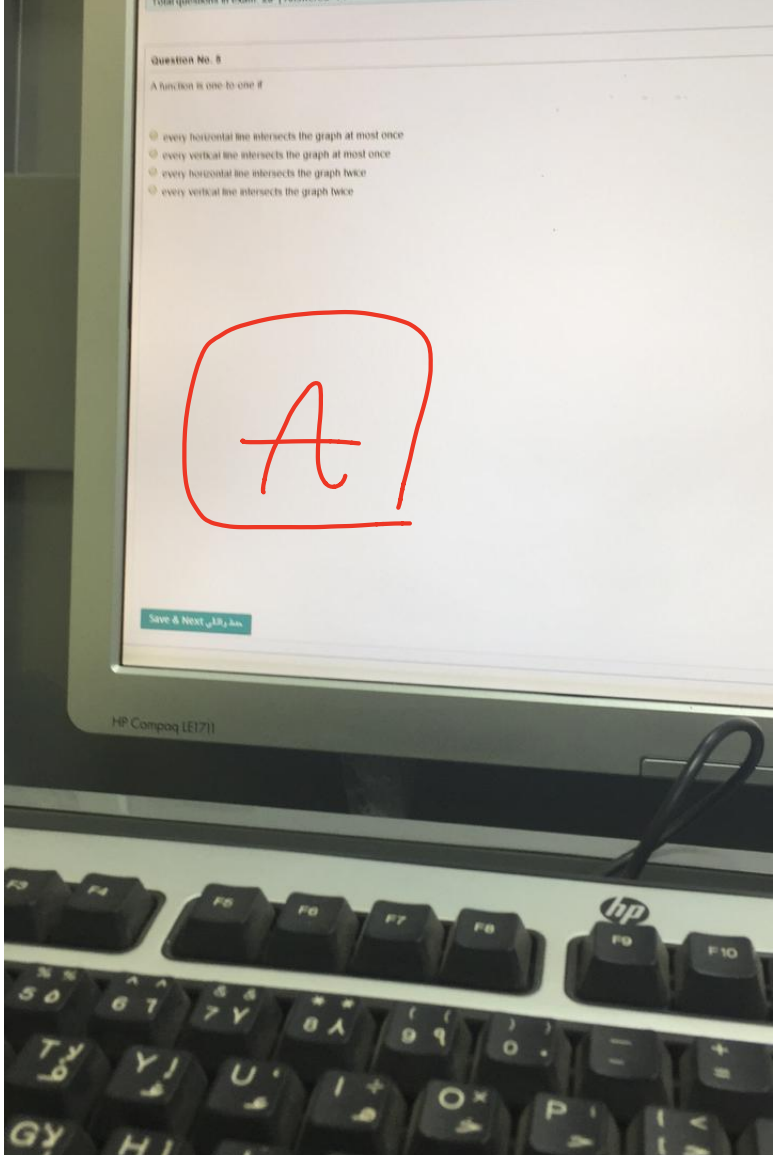
Question No. 5
A function is one-to-one if
every horizontal line intersects the graph at most once
every vertical line intersects the graph at most once
every horizontal line intersects the graph twice
every vertical line intersects the graph twice
A
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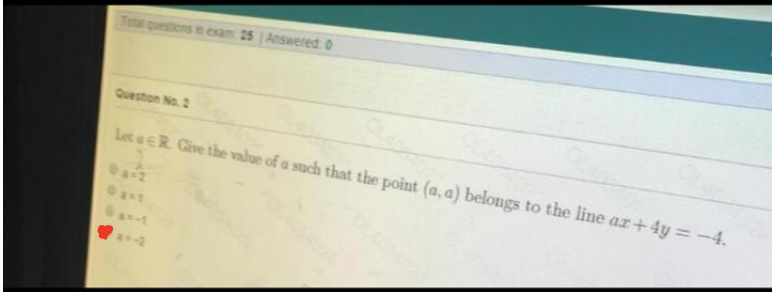
* حوض عن x بـ (a)
و y بـ (a)



بالتجريب:

$(-2)^2 + 4(-2) = -4$

$4 - 8 = -4$

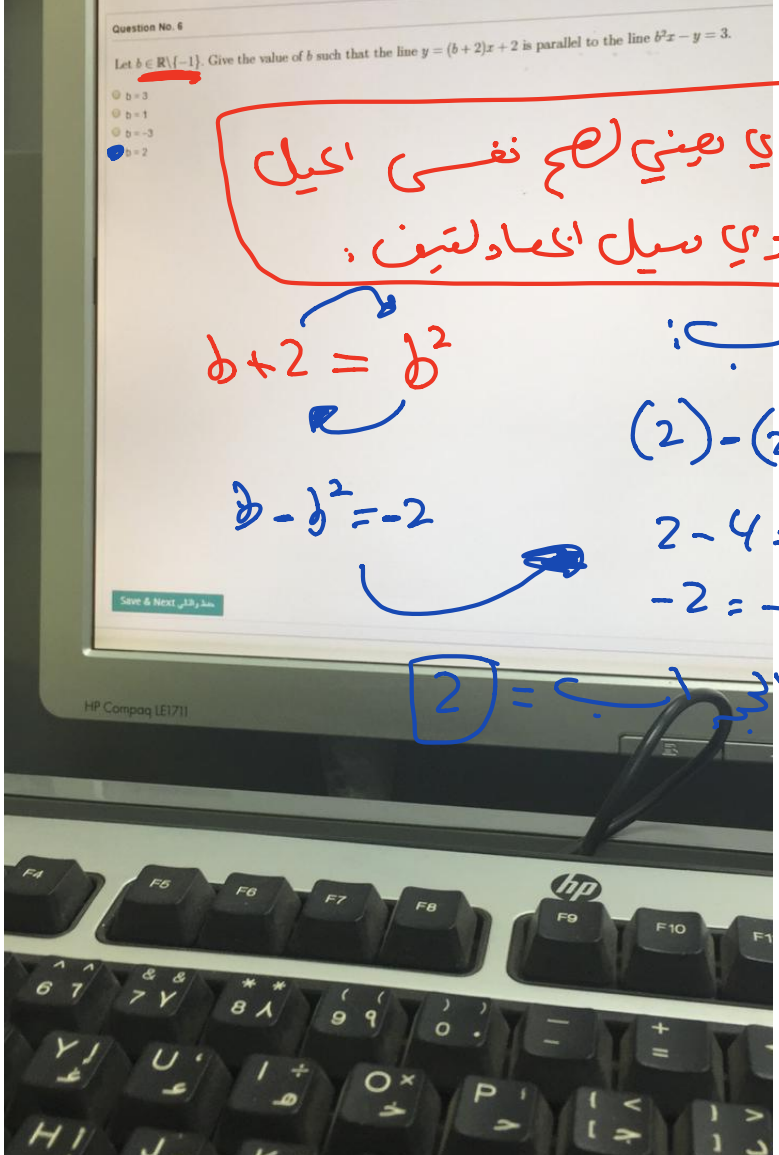
$-4 = -4$

* اذا الجواب = -2

$: a(x) + 4y = -4$

$= a(a) + 4(a) = -4$

$= a^2 + 4a = -4$



* متوازي يعني لهم نفس الميل
* نساوي ميل المعادلتين :

$b + 2 = b^2$

$b - b^2 = -2$

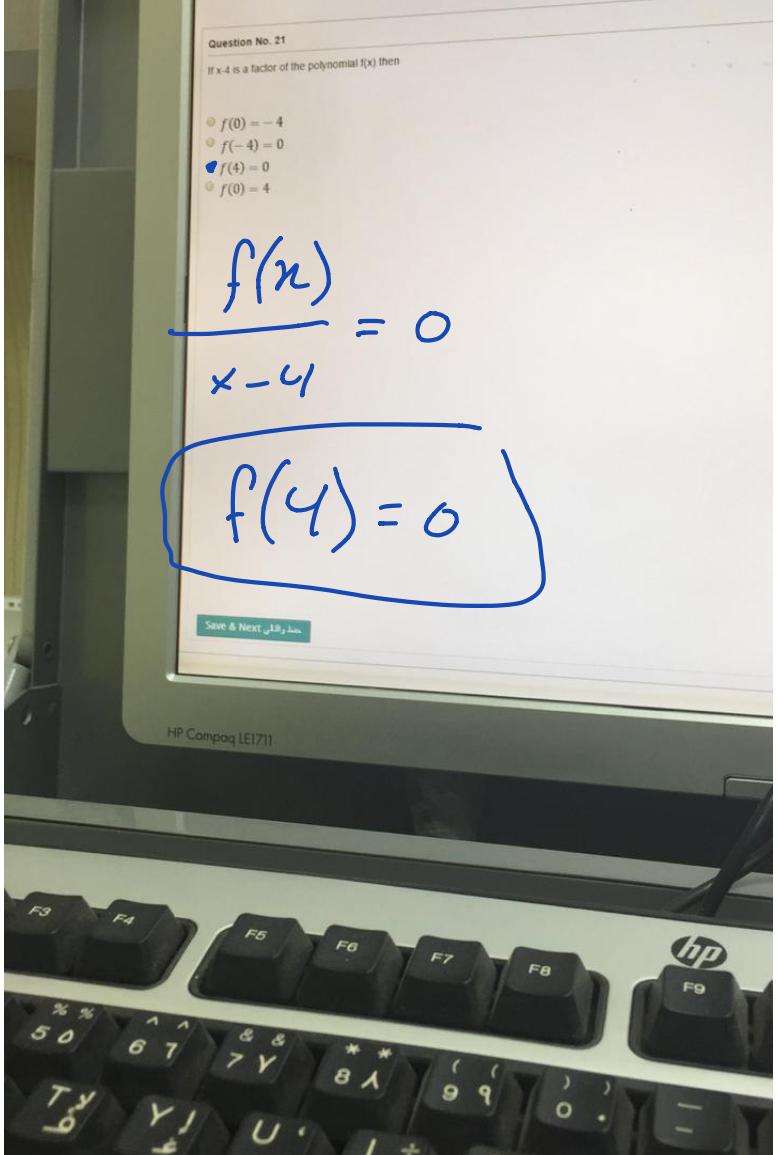
بالتجريب :

$(2) - (2)^2 = -2$

$2 - 4 = -2$

$-2 = -2$

اذا الجواب = $\boxed{2}$


Question No. 21
If x-4 is a factor of the polynomial f(x) then
$f(0) = -4$
$f(-4) = 0$
$f(4) = 0$
$f(0) = 4$
$\frac{f(x)}{x-4} = 0$
$f(4) = 0$
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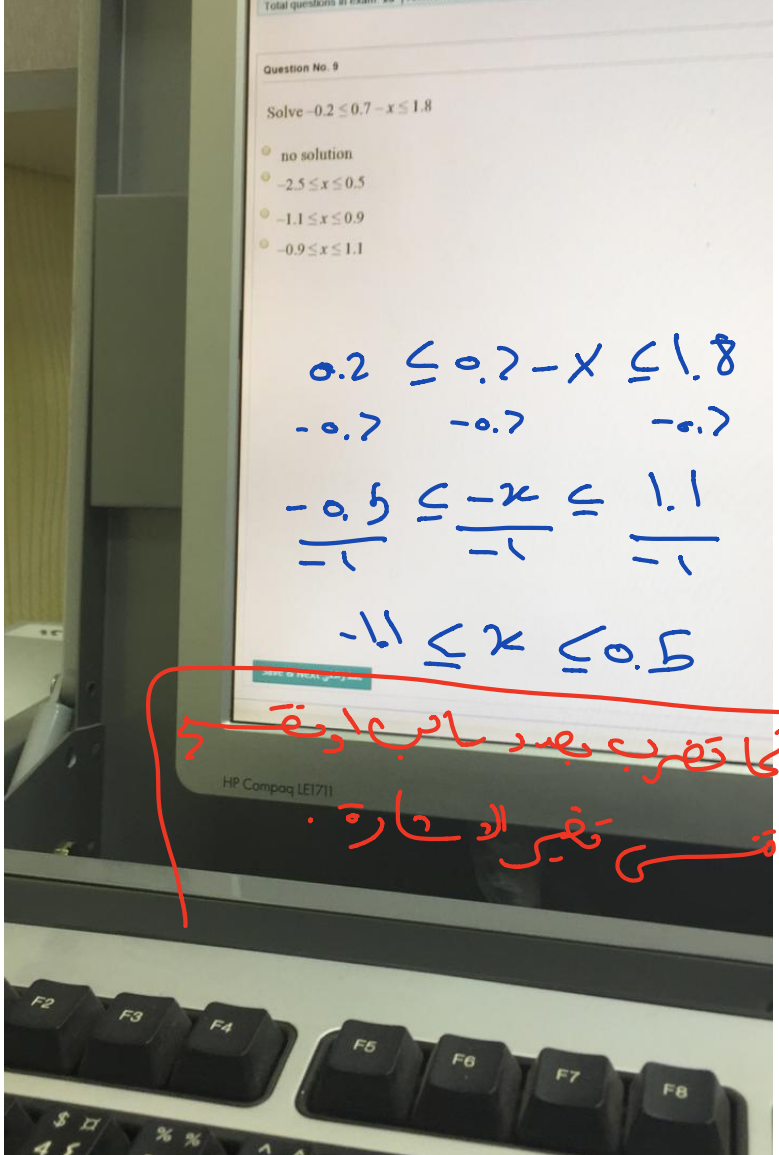

Total questions in exam: 25

Question No. 9

Solve $-0.2 \le 0.7 - x \le 1.8$

- no solution
- $-2.5 \le x \le 0.5$
- $-1.1 \le x \le 0.9$
- $-0.9 \le x \le 1.1$

$$0.2 \le 0.7 - x \le 1.8$$

$$-0.7 \quad -0.7 \quad -0.7$$

$$\frac{-0.5}{-1} \le \frac{-x}{-1} \le \frac{1.1}{-1}$$

$$-1.1 \le x \le 0.5$$

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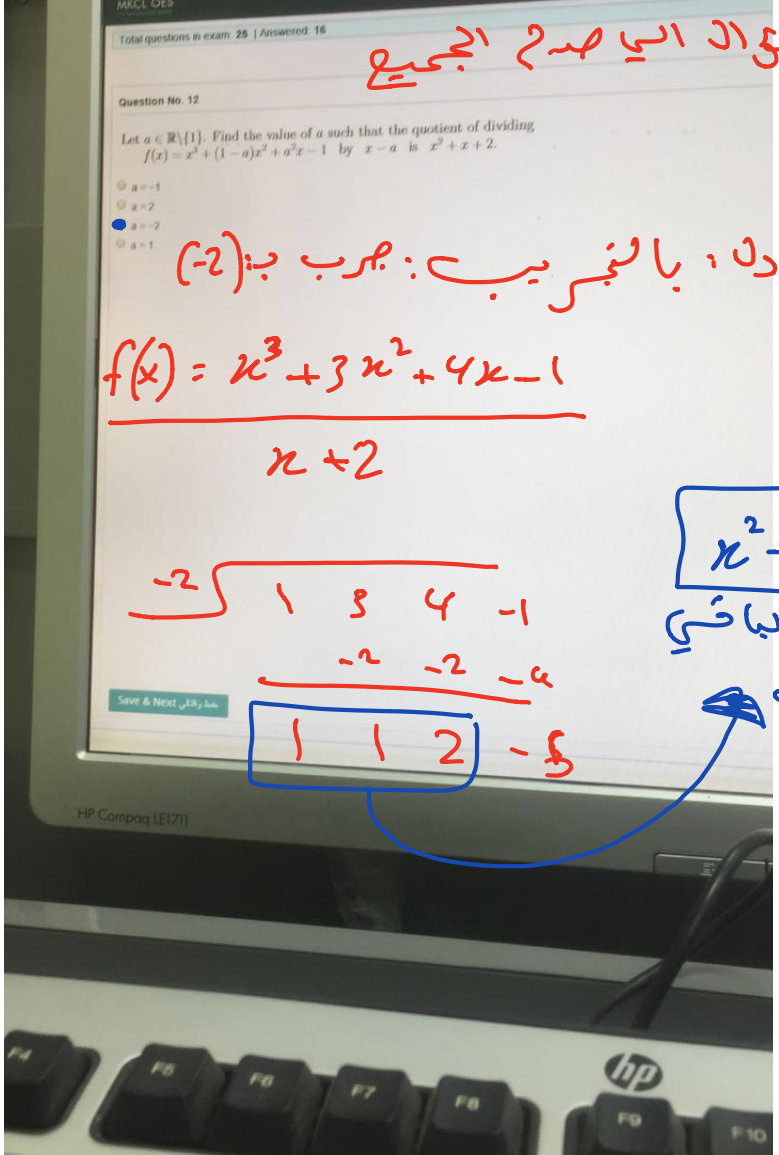
* لما تضرب بعدد سالب او تقسم

لا تنسى تغير الاشارة .



السؤال الي صح الجميع

الحل الاول: بالتجريب: بجرب بـ (-2)

$$\frac{f(x) = x^3 + 3x^2 + 4x - 1}{x + 2}$$

-2	1	3	4	-1
		-2	-2	-4
	1	1	2	-5

$x^2 + x + 2$

نفس الباقي

اذا" الجواب

-2

الحل الثاني بمعادلة

$$\begin{array}{c|cccc} a & 1 & 1-a & a^2 & -1 \\ & & a & a & a^3+a^2 \\ \hline & 1 & 1 & a^2+a & a^3+a^2-1 \end{array}$$

$$x^2 + x + (a^2+a)$$

$$a^2 + a = 2$$

$$(-2)^2 - 2 = 2$$

$$4 - 2 = 2$$

$$2 = 2$$

$$x^3 + x + 2$$

Question No. 25

Determine the solution set of the following inequality

$$-4 - x < -x$$

- $S = (-\infty, -4)$
- $S = (-\infty, \infty)$
- $S = (4, \infty)$
- $S = \phi$

$-4 - x + x < 0$

$-4 < 0$

اذا العبارة صحيحة

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فدائما الحل يكون $(-\infty, \infty)$

Math_Quiz2_Sem1_2018

Total questions in exam: 25 | Answered: 23

Question No. 16

Let $a \in \mathbb{R}$. Give the value of a such that the point $(1,1)$ belongs to both lines $ax+a^2y=6$ and $a^2x+2y=11$.

- a = 3
- a = −1
- a = −3
- a = 1

* اعوض عن x بـ (1) و y بـ (1):

$a(1)+a^2(1)=6$

$a+a^2=6$

* بالتجربة:

$(-3)+(-3)^2=6$

$-3+9=6$

$a^2+2=11$

$a^2=9$

$a=\pm 9$

$a=-3$

نختار الجواب بناء على المعادلة الرياضية

Question No. 15

If $a < b < c$, solve the inequality $\frac{(x-a)(x-b)}{(x-c)} \leq 0$, for x.

- $(-\infty, a]$
- $[a, b] \cup (c, \infty)$
- $[a, \infty)$
- $(-\infty, a] \cup [b, c)$

* نفرض اعداد من عندنا

$2 < 3 < 4$

* نضعها في المعادلة:

$$\frac{(x-2)(x-3)}{x-4}$$

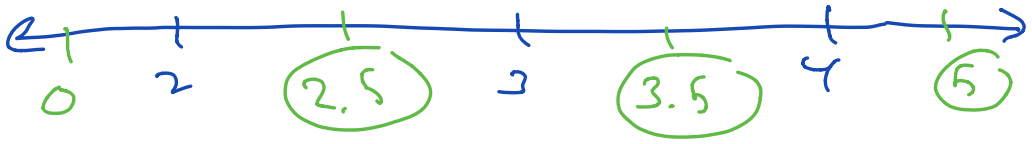
* نجيب اصفارها:

$x-3 \Rightarrow \boxed{x=3}$

$x-2 \Rightarrow \boxed{x=2}$

$x-4 \Rightarrow \boxed{x=4}$

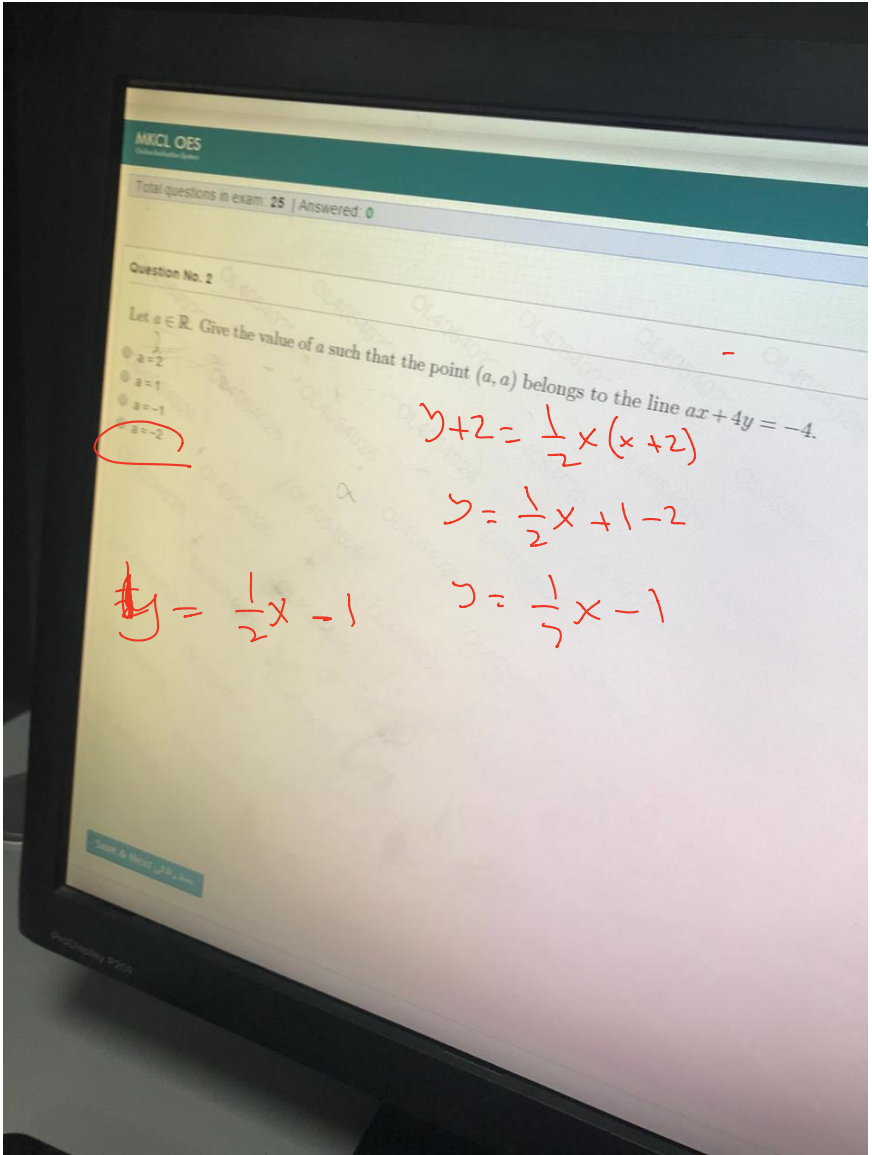
* نخطها فرضا الاعداد، ونشوف ايش يحقق المعادلة، ونفرض عدد بعد وقبل كل فترة.



بالتعويض عن x بالارقام اللي باللون الاخضر ونشوف ايش اللي تعطينا عدد اصغر من 0

الجواب

D


MKCL OES
Total questions in exam: 25 | Answered: 0
Question No. 2
Let $a \in \mathbb{R}$. Give the value of a such that the point (a, a) belongs to the line $ax + 4y = -4$.
a = 2
a = 1
a = -1
a = -2
$y + 2 = \frac{1}{2}x(x + 2)$
$y = \frac{1}{2}x + 1 - 2$
$y = \frac{1}{2}x - 1$
$y = \frac{1}{2}x - 1$

Question No. 10

If 5 is a zero of $f(x) = x^3 - 8x^2 + 11x + 20$, then other zeros are

- -4, -1
- -4, 1
- 4 ,1
- 4 , -1

(سؤال هدية)

تعوضي بالخيارات وتشوفي ايش يعطيك

صفر

MKCL OES

Math_Quiz2_Sem1_2018

Total questions in exam: 25 | Answered: 8

Question No. 25

Let $b \in \mathbb{R}\setminus\{\frac{1}{4}\}$. Give the value of b such that the line $y = (4b-5)x + 2$ is perpendicular to the line $bx - y = 3$.

- b = −3
- b = 3
- b = 2
- b = 1

دام قال متعامدة [فلازم حاصل ضرب

الميلين يساوي = $\boxed{-1}$

ميل المعادلة (1) × ميل المعادلة (2) = -1

$$(4b-5)\cdot(b) = -1$$

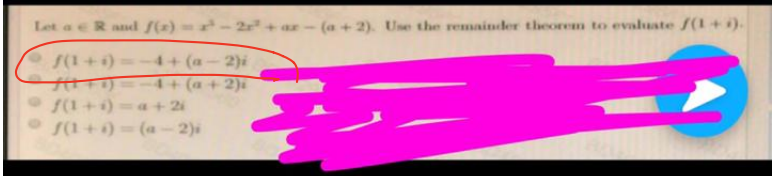
$$4b^2 - 5b = -1$$

* بالتجريب:

$$4(1)^2 - 5(1) = -1$$

$$4 - 5 = -1$$

$$\boxed{-1 = -1}$$


Let $a \in \mathbb{R}$ and $f(x) = x^3 - 2x^2 + ax - (a+2)$. Use the remainder theorem to evaluate $f(1+i)$.
$f(1+i) = -4 + (a-2)i$
$f(1+i) = -4 + (a+2)i$
$f(1+i) = a + 2i$
$f(1+i) = (a-2)i$

* بالتعويض *

$$(1+i)^3 - 2(1+i)^2 + a(1+i) - (a+2)$$

طلعها بالآلة

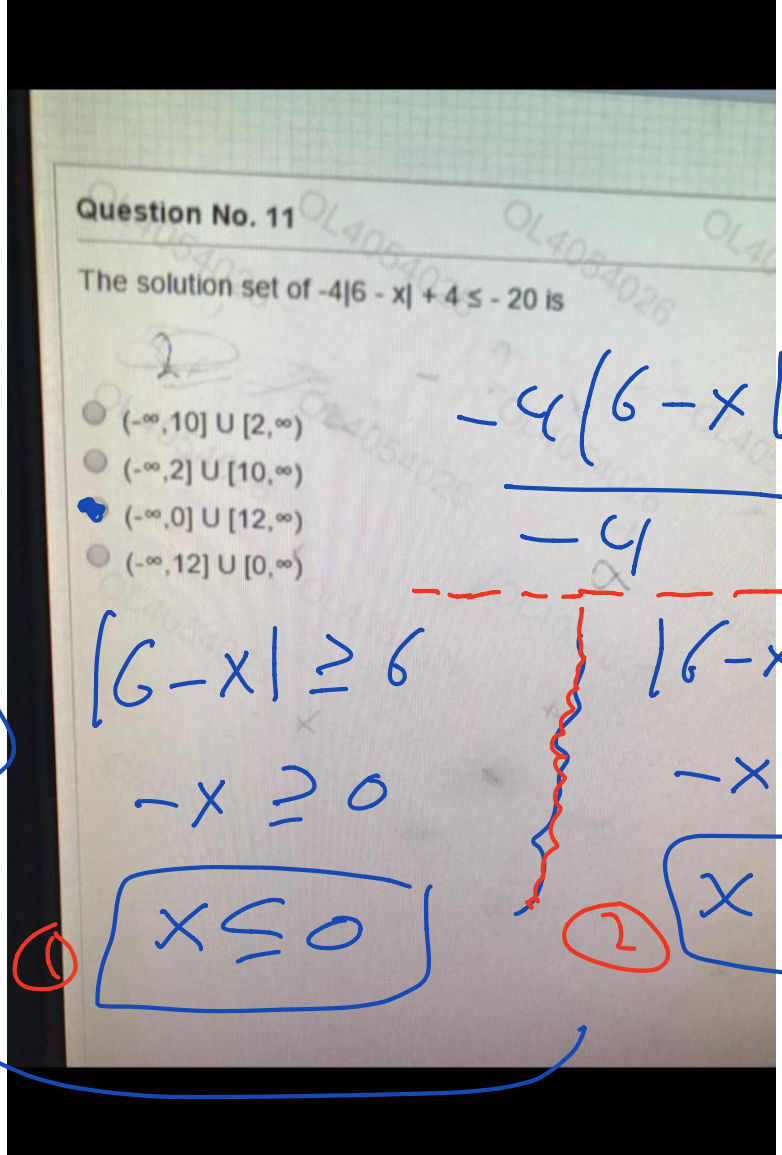
$$-2 - 2i + a + ai - a - 2$$

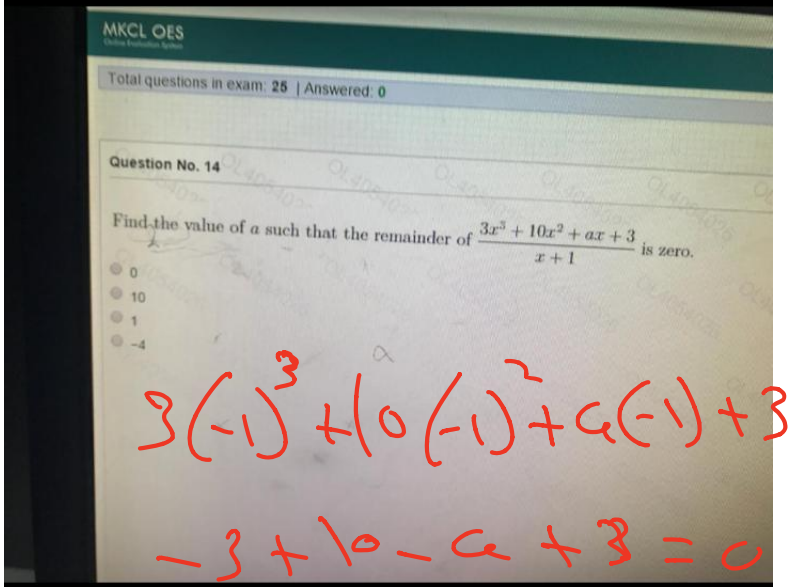
نجمع.

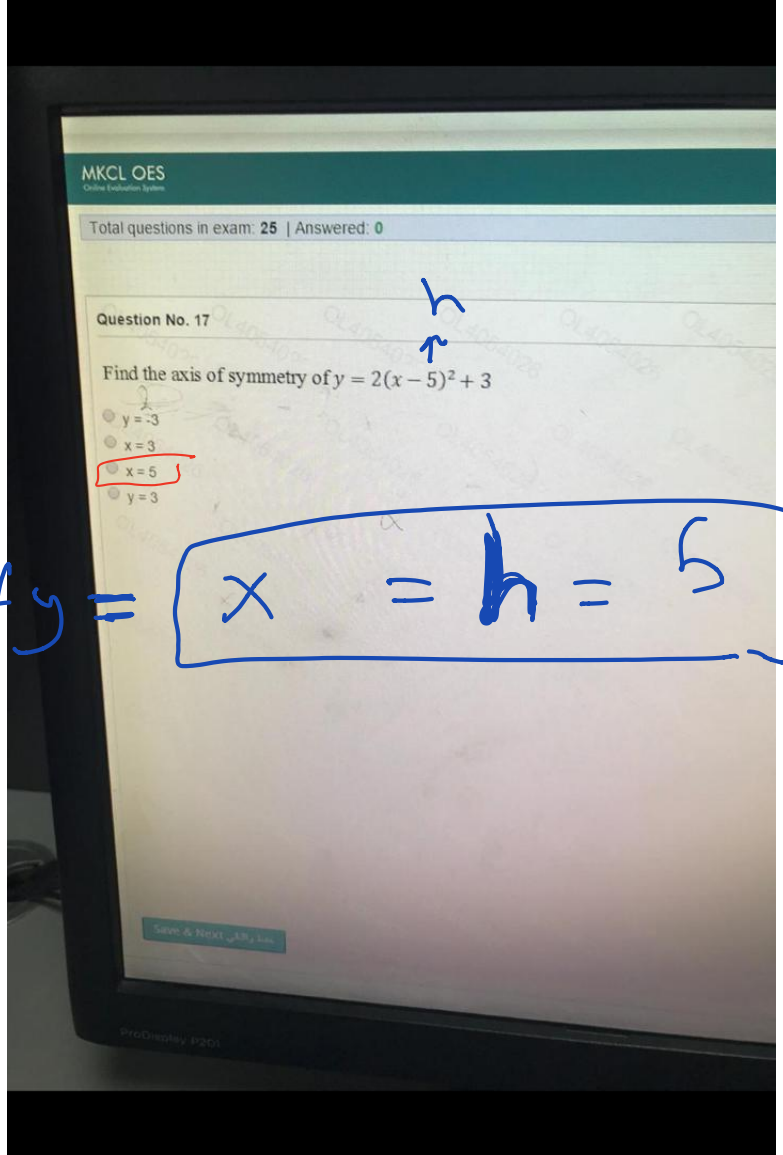
$$-4 - 2i + ai$$

نخرج عامل مشترك

$$-4 + (a-2)i$$


Question No. 11
The solution set of -4|6 - x| + 4 ≤ - 20 is
(-∞,10] U [2,∞)
(-∞,2] U [10,∞)
(-∞,0] U [12,∞)
(-∞,12] U [0,∞)
-4|6-x| ≤ -24
-4 -4
|6-x| ≥ 6
-x ≥ 0
x ≤ 0
|6-x| ≤ -6
-x ≤ -12
x ≥ 12
(-∞,0]∪[12,∞)


MKCL OES
Total questions in exam: 25 | Answered: 0
Question No. 14
Find the value of a such that the remainder of $\frac{3x^3+10x^2+ax+3}{x+1}$ is zero.
0
10
1
-4
$3(-1)^3+10(-1)^2+a(-1)+3=0$
$-3+10-a+3=0$
$-a+10=0$
$-a=-10$
$a=10$



h

axis of $y = x = h = 5$

Question No. 14

If $f(x) = \sqrt{x+2}$ and $g(x) = 3x - 5$. Find $h(x) = (g \circ f)(x)$

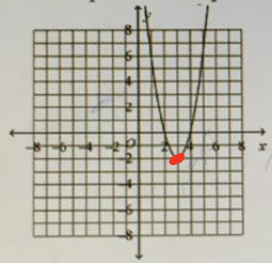
- $h(x) = \sqrt{3x-3}$
- $h(x) = 3\sqrt{x+2} - 5$
- $h(x) = 3\sqrt{x-1}$
- $h(x) = 3\sqrt{x} + 3$

$g(f(x)) = g(\sqrt{x+2})$

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

Question No. 22

Write the equation of this parabola in vertex form.



- $y = 2(x+3)^2 + 2$
- $y = (x-3)^2 - 2$
- $y = 2(x+3)^2 - 2$
- $y = 2(x-3)^2 - 2$

(3, -2)

$x = 2(x-3) - 2$

✗ ليش (ج) ؟!

لأنه لا تساوي ضيق

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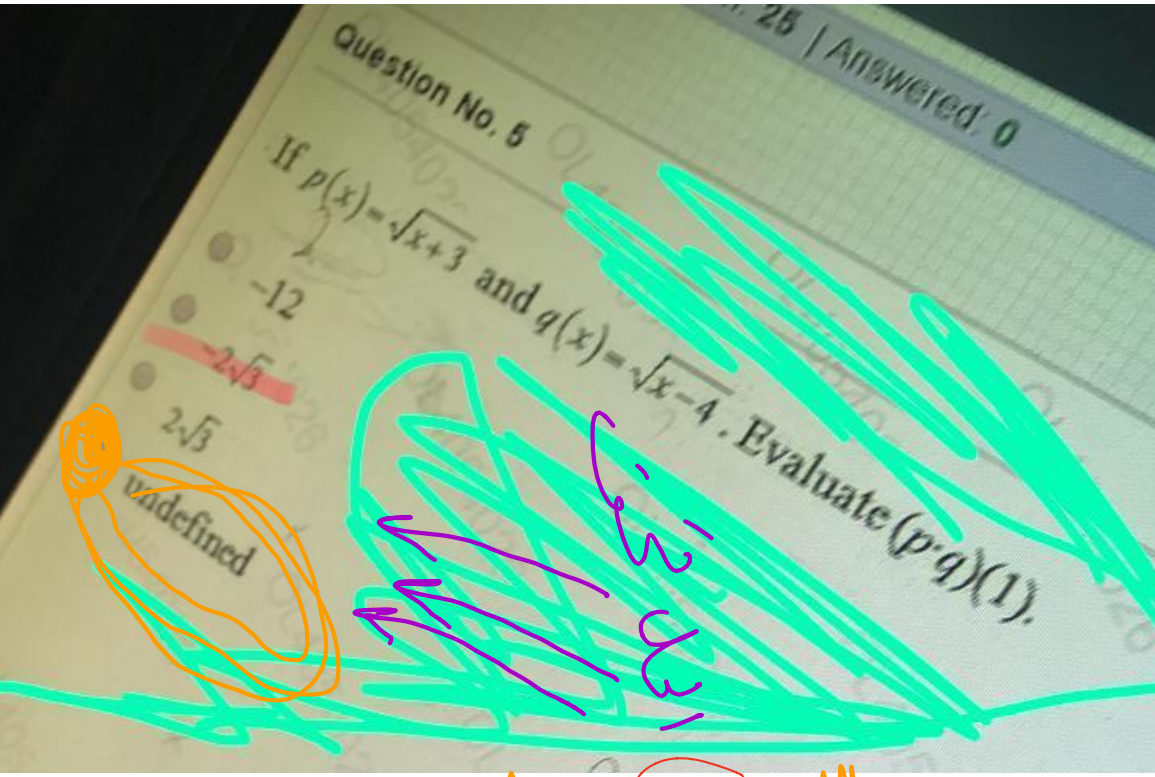
25 | Answered: 0
Question No. 5
If $p(x)=\sqrt{x+3}$ and $q(x)=\sqrt{x-4}$. Evaluate $(p\cdot q)(1)$.
-12
$-2\sqrt{3}$
$2\sqrt{3}$
undefined

$P(1) \cdot Q(1)$

$(\sqrt{1+3})(\sqrt{1-6})$

$(\sqrt{4})(\sqrt{-3})$

* اذا فيه عدد تخيلي
مع اول غير معرف