



وزارة التربية والتعليم و التعليم الفنى
الإدارة المركزية للتعليم العام
إدارة تنمية مادة الرياضيات

برعاية معالي وزير التربية والتعليم و التعليم الفنى السيد الأستاذ/ محمد عبد اللطيف

وتوجيهات رئيس الإدارة المركزية للتعليم العام

د/ هالة عبد السلام خفاجى

إشراف علمي
مستشار الرياضيات
أ/ منال عزقول

أداءات وتقييمات لمنهج الرياضيات البحتة لغات

للفص الثاني الثانوي "علمي"
الفصل الدراسي الأول
للعام الدراسي 2025 / 2026

الأسبوع السادس

لجنة الإعداد

أ/ عفاف جاد

أ/ محمد الفار

د/ محمد عبد العاطى

ترجمة

أ/ عمرو فاروق

مراجعة الترجمة

أ/ شريف البرهامى



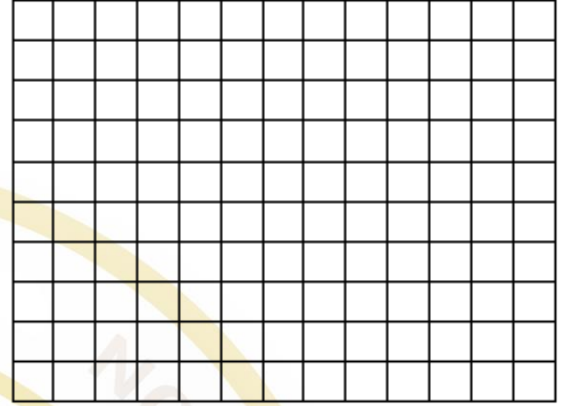
6 الرياضيات البحتة لغات - للصف الثاني الثانوي علمي الأداء الصفی الأسبوع السادس 6

Algebra: Exercises on Graphical representation of functions

1) Graph the function $f : f(x) = \frac{1}{|x|} - 1$, from the graph deduce its domain, its range, discuss its monotony and mention its type (even, odd or otherwise).

Solu:

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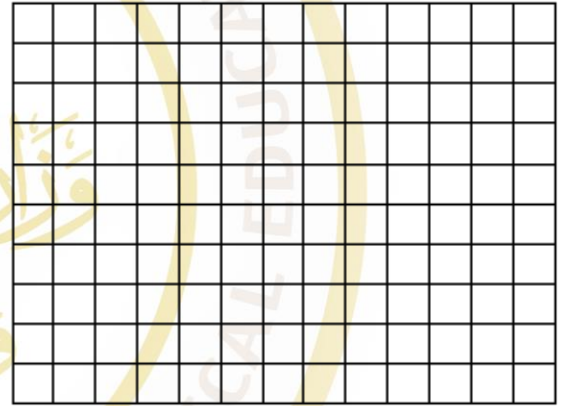
2) If the function $f(x) : f(x) = x^3$

Graph the function $g(x) : g(x) + f(x) = 1$,

Then deduce its domain, its range, discuss its monotony and mention its type (even, odd or otherwise).

Solu:

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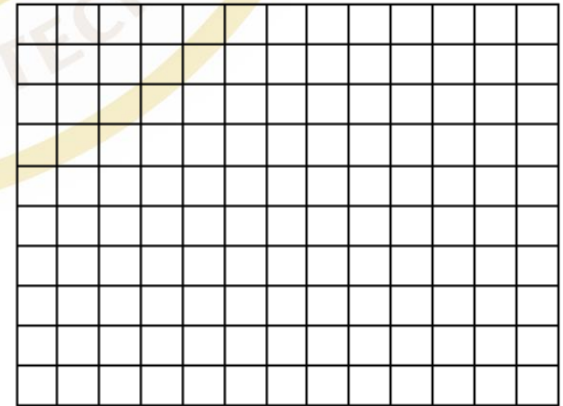


3) Graph the function $f : f(x) = x^2 - 6x + 9$,

from the graph deduce its domain, its range, discuss its monotony and mention its type (even, odd or otherwise).

Solu:

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Algebra: Exercises on Solving Absolute Value Equations

4) Find in $\mathbb{R}$ the solution set of the following equation algebraically:

$$|x + 3| - x - 1 = 0$$

Solu:

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5) Find in $\mathbb{R}$ the solution set of the following equation algebraically:

$$|4x - 12| - |3 - x| = 15$$

Solu:

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6) Find in $\mathbb{R}$ the solution set of the following equation algebraically:

$$\sqrt{x^2 - 8x + 16} + |4 - x| = 6$$

Solu:

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Calculus: Finding the limit of a function algebraically and theorem (4)

7) Find: $\lim_{x \rightarrow 1} \frac{x^2 - 2x + 1}{x^3 - 1}$

Solu:

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8) Find: $\lim_{x \rightarrow 2} \frac{2x^2 - x^3}{x^2 - 4}$

Solu:

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9) Find: $\lim_{x \rightarrow 0} \frac{\sqrt{x^2 + 9} - 3}{x^2 + x}$

Solu:

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10) Find: $\lim_{x \rightarrow 1} \frac{1 - x}{2 - \sqrt{x + 3}}$

Solu:

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11) Find: $\lim_{x \rightarrow 1} \frac{x^3 - 3x + 2}{x^2 - 1}$

Solu:

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12) Find: $\lim_{x \rightarrow -2} \frac{x^3 - 3x + 2}{x^3 + 2x^2 + x + 2}$

Solu:

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13) Find: $\lim_{x \rightarrow 2} \frac{x^6 - x^5 - 32}{x^4 - 16}$

Solu:

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14) Find: $\lim_{x \rightarrow -1} \frac{x^8 + x^3}{x^3 + 1}$

Solu:

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15) Find: $\lim_{x \rightarrow -2} \frac{2x^6 - 128}{x^4 - 16}$

Solu:

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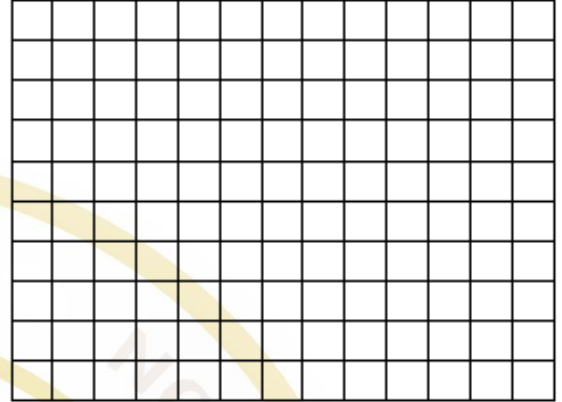
6 الرياضيات البحتة لغات - للصف الثاني الثانوي علمي الأداء المنزلي الأسبوع السادس 6

Algebra: Graphical representation of functions

1) Graph the function $f : f(x) = (x - 2)^3 + 1$, from the graph deduce its domain, its range, discuss its monotony and mention if it is one to one or not.

Solu:

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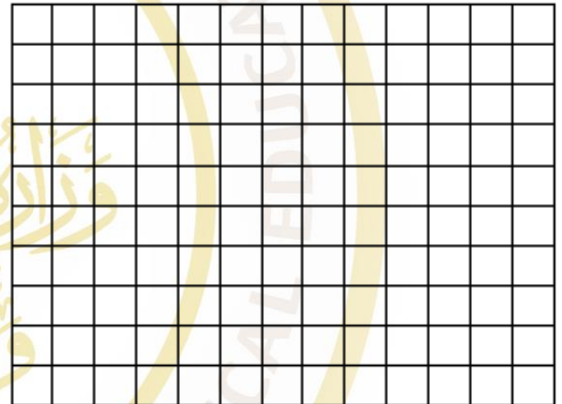
2) Use the graph of the function $f(x) = \frac{1}{x}$ to draw

the graph the function $g(x) : g(x) = \frac{-1}{x + 2} + 1$,

then deduce its domain, its range, discuss its monotony and mention its type (even, odd or otherwise).

Solu:

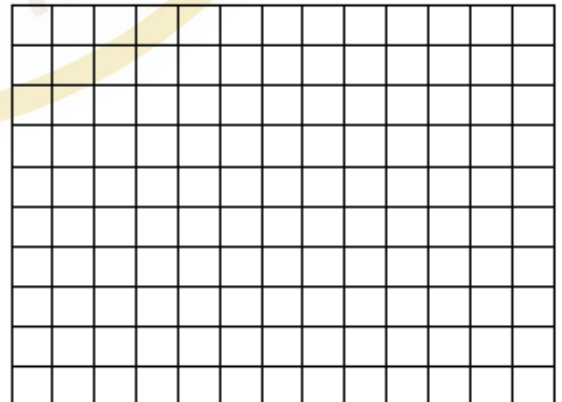
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3) Graph the function $f : f(x) = x^3 - 1$, from the graph deduce its domain and its range.

Solu:

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Algebra: Exercises on Solving Absolute Value Equations

4) Find in $\mathbb{R}$ the solution set of the following equation algebraically:

$$|x + 2| - x - 1 = 0$$

Solu:

.....

.....

.....

5) Find in $\mathbb{R}$ the solution set of the following equation algebraically:

$$|5x - 15| - |3 - x| = 20$$

Solu:

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6) Find in $\mathbb{R}$ the solution set of the following equation algebraically:

$$\sqrt{x^2 - 4x + 4} = 3$$

Solu:

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Calculus: Finding the limit of a function algebraically and theorem (4)

7) Find: $\lim_{x \rightarrow 3} \frac{3 + 2x - x^2}{27 - x^3}$

Solu:

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8) Find: $\lim_{x \rightarrow -1} \frac{x^2 - 1}{x^2 + x}$

Solu:

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9) Find: $\lim_{x \rightarrow 3} \frac{x^2 - x - 6}{\sqrt{5x - 6} - 3}$

Solu:

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10) Find: $\lim_{x \rightarrow 0} \frac{\sqrt{x + 25} - 5}{x^2 + x}$

Solu:

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11) Find: $\lim_{x \rightarrow 1} \frac{x^3 - 2x + 1}{x^2 + x - 2}$

Solu:

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12) Find: $\lim_{x \rightarrow -3} \frac{x^3 - 6x + 9}{x^3 + 3x^2 + x + 3}$

Solu:

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13) Find: $\lim_{x \rightarrow 1} \frac{x^7 + x^5 - 2}{x^6 + 1}$

Solu:

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14) Find: $\lim_{x \rightarrow -1} \frac{x^{10} - x^4}{x^3 + 1}$

Solu:

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15) Find: $\lim_{x \rightarrow -2} \frac{8x^6 - 512}{x^4 - 16}$

Solu:

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