مراجعة نهائية وفق الهيكل الوزاري منهج ريفيل

تم تحميل هذا الملف من موقع المناهج الإماراتية	
موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف الثاني عشر العام ⇦ رياضيات ⇦ الفصل الأول ⇦ ملفات متنوعة ⇦ الملف	
تاريخ إضافة الملف على موقع المناهج: 2025-10-31 09:51:59	
ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس	المزيد من مادة رياضيات:
إعداد: Alzzen Rashed Mohammed	

التواصل الاجتماعي بحسب الصف الثاني عشر العام					
صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف الثاني عشر العام والمادة رياضيات في الفصل الأول	
تجميعة أسئلة وفق الهيكل الوزاري الجديد باللغتين العربية والانجليزية	1
تجميعة أسئلة من 21 حتى 25 من الهيكل الوزاري الجديد المنهجين ريفيل وبريدج	2
التوقعات المرئية الامتحانات التجريبية وفق الهيكل الوزاري الجديد	3
تجميعة أسئلة مراجعة وفق الهيكل الوزاري الجديد منهج بريدج	4
نموذج إجابة تجميعة مراجعة نهائية وفق الهيكل الوزاري الجديد منهج بريدج	5

وزارة التربية والتعليم
MINISTRY OF EDUCATION

Mathematics

Grade 12 General

Term one :2025/2026

هيكل امتحان
مادة الرياضيات

DONE BY

T. Mohd Rashed ALZZEN

055/3230397

Coverage Exam-Term one (2025-2026)

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Teacher: Mohammed Rashed Alzzen

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Q(1)	Example (1)	Page (4)	Lesson (1:1)
	Practice (1-4)	Page (9)	

Example (1): Graph $f(x) = x^2 + 2x - 3$ .State the domain and range .

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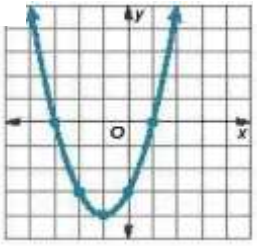
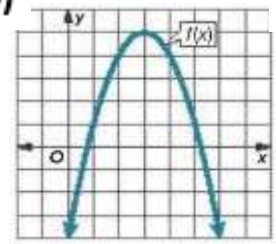
Domain المجال	Axis of symmetry	Vertex الراس	Range المدى	Y- intercept مقطع محور
$a)\ x \geq 0$ $b)\ x \leq 0$ $c)\ x \neq 0$ $d)\ (-\infty, \infty)$	$a)\ x = 1$ $b)\ x = -1$ $c)\ x = 0$ $d)\ x = 2$	$a)\ (-1, 4)$ $b)(-1, -4)$ $c)\ (1, 0)$ $d)\ (-1, -5)$	$a) y \geq -1$ $b)\ x \leq -1$ $c)\ x \geq 0$ $d)\ (-\infty, \infty)$	$a)\ (0, 3)$ $b)(0, 0)$ $c)\ (0, -3)$ $d)\ (-3, 0)$

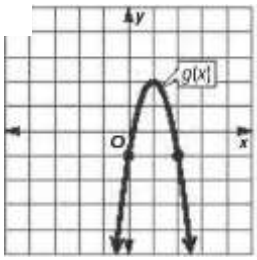
a)



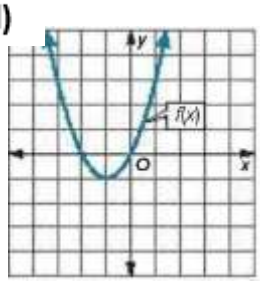
b)



c)



d)



Pr (1-4): Graph each function , Then State the domain and range .

1) $f(x) = x^2 + 6x + 8.$

Domain المجال	Axis of symmetry	Vertex الراس	Range المدى	Y- intercept مقطع محور

2) $f(x) = -x^2 - 2x + 2.$

Domain المجال	Axis of symmetry	Vertex الراس	Range المدى	Y- intercept مقطع محور

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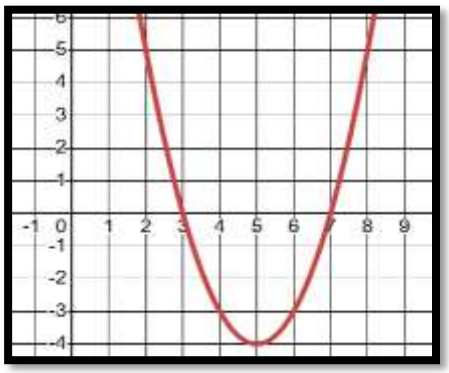
Q(2)	Practice (4-12)	Page (17)	Lesson (1:2)

Pr(4-12): Solve each equation by graphing .



4) $x^2 - 10x + 21 = 0$, The solutions to the equation are :

$a)\ x = 3\ , -3$ $b)\ x = 3\ , 7$

$c)\ x = -3\ , -7$ $d)\ no\ real\ solution$

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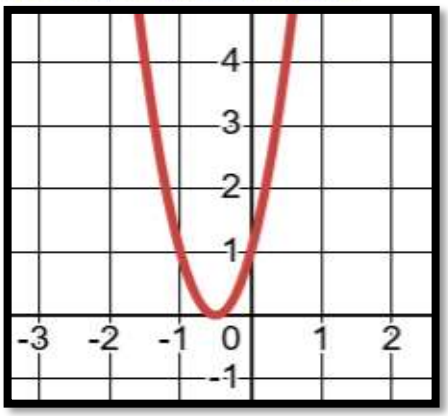

5) $4x^2 + 4x + 1 = 0$, The solutions to the equation are :

$a)\ x = 0.5$ $b)\ x = -0.5$

$c)\ x = 1$ $d)\ no\ real\ solution$

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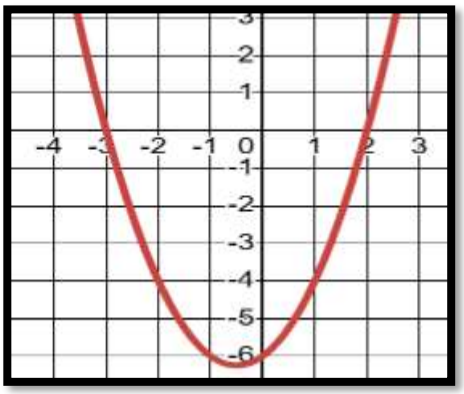
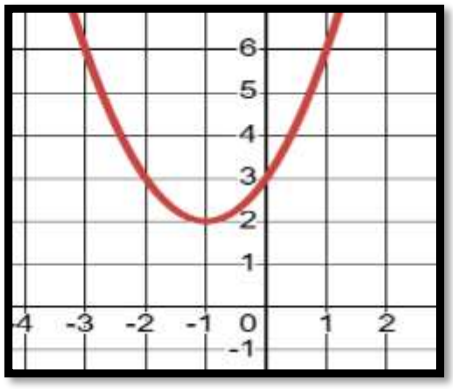


6) $x^2 + x - 6 = 0$, The solutions to the equation are :

$a)\ x = -3, -6$ $b)\ x = 2, -6$

$c)\ x = -3\ ,2$ $d)\ no\ real\ solution$



10) $x^2 + 2x + 3 = 0$, The solutions to the equation are :

$a)\ x = 3,$ $b)\ x = -1$

$c)\ x = 02$ $d)\ no\ real\ solution$

Q(3)	Example (1+2+4)	Pages: 27 ,28 ,29	Lesson (1:4)

Example (1): **The factor and solutions of the equation** $12x^2 - 2x = x$ **.**

$a)\quad 12x(x-2) = 0 \ , solutions : x = 0 \ , x = 2$

$b)\quad 3x(4x-1) = 0 \ , solutions : x = 0 \ , x = \frac{1}{4}$

$c)\quad 3x(4x+1) = 0 \ , solutions : x = 0 \ , x = -\frac{1}{4}$

$d)\quad (x-3)(x-4) = 0 \ , solutions : x = 3 \ , x = 4$

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Example (2): **The factor and solutions of the equation** $x^2 - 6x - 9 = 18$ **.**

$a)\quad (x+6)(x-3)) = 0 \ , solutions : x = -6, x = 3$

$b)\quad (x-1)(x-27) = 0 \ , solutions : x = 1 \ , x = 27$

$c)\quad (x-3)(x+9) = 0 \ , solutions : x = 3, x = -9$

$d)\quad (x+3)(x-9) = 0 \ , solutions : x = -3 \ , x = 9$

Example (4): **The factor and solutions of the equation** $3x^2 + 5x + 15 = 17$ **.**

$a)\quad (3x+1)(x-2)) = 0 \ , solutions : x = -\frac{1}{3}, x = 2$

$b)\quad (3x-2)(x-1) = 0 \ , solutions : x = \frac{2}{3} \ , x = 1$

$c)\quad (3x-1)(x+2) = 0 \ , solutions : x = \frac{1}{3} \ , x = -2$

$d)\quad (x+1)(x-2) = 0 \ , solutions : x = -1 \ , x = 2$

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Q(4)	Example (4)	Page (35)	Lesson (1:5)

Example (4): Find the value of **c** that makes a perfect square , then write the expression as a perfect square trinomial.

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$A)\quad x^2 - 7x + C$

$a)\quad c = 3.5 \quad ,(x - 3.5)^2$ $\qquad b)\quad c = 12.25 \quad ,(x - 3.5)^2$

$c)\quad c = 3.5 \quad ,(x + 3.5)^2$ $\qquad d)\quad c = 7 \ , \ (x - 7)^2$

$B)\quad x^2 + 10x + C$

$a)\quad c = 25\ ,(x + 5)^2$ $\qquad b)\quad c = 5 \quad ,(x + 5)^2$

$c)\quad c = 10 \quad ,(x + 5)^2$ $\qquad d)\quad c = 25 \ , \ (x - 10)^2$

$C)\quad x^2 + 24x + C$

$a)\quad x^2 + 24x + 48$ $\qquad b)\quad x^2 + 24x + 576$

$c)\quad x^2 + 24x + 144$ $\qquad d)\quad x^2 + 24x + 12$

Q(5)	Example (5)	Page (35)	Lesson (1:5)

Example(5): Solve equation $x^2 + 18x - 4 = 0$ by **Completing square.**

$a)\quad \{x|x = -9 \pm \sqrt{85}\}$ $\qquad b)\quad \{x|x = 9 \pm \sqrt{85}\}$

$c)\quad \{x|x = -4 \pm \sqrt{81}\}$ $\qquad d)\quad \{x|x = 4 \pm \sqrt{81}\}$

- Solve equation $x^2 - 4x - 13 = 0$ by **Completing square.**

$a)\quad \{x|x = -2 \pm \sqrt{17}\}$ $\qquad b)\quad \{x|x = 2 \pm \sqrt{17}\}$

$c)\quad \{x|x = -3 \pm \sqrt{13}\}$ $\qquad d)\quad \{x|x = 2 \pm \sqrt{26}\}$

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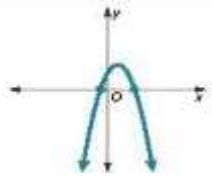
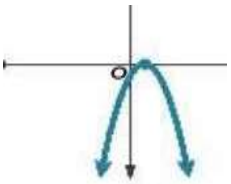
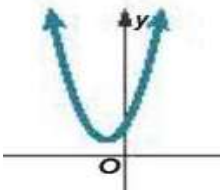
Q(6)	Key Concepts (Discriminant)	Page (45)	Lesson (1:6)

- Consider $ax^2 + bx + c = 0$, Where **a , b** and **c** are rational numbers and $a \neq 0$ *then* .
- Describe the **discriminant** $(b^2 - 4ac)$ of the related equation of each graph. Then determine the **type** and **number** of roots.

Value of discriminant	Example	Type and number roots	Example	Graph
$b^2 - 4ac > 0$	$b^2 - 4ac$ Perfect Square $\sqrt{b^2 - 4ac} \in Z$	2 Real / Rational Roots	$x^2 - 5x + 6 = 0$	
	$b^2 - 4ac$ not Perfect Square $\sqrt{b^2 - 4ac} \notin Z$	2 Real / Irrational Roots	$x^2 - 4x - 13 = 0$	
$b^2 - 4ac = 0$		1 Real / Rational Roots	$x^2 - 10x - 25 = 0$	
$b^2 - 4ac < 0$		2 Complex roots	$2x^2 + 2x + 3 = 0$	

Q(7)	Practice (4-9),(37-39)	Pages (55,56)	Lesson (1:7)

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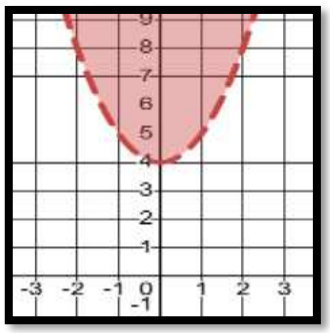
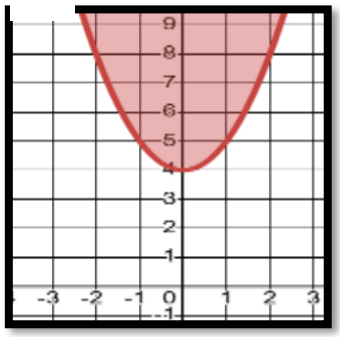
Pr(4): The graph that represents the inequality $y \leq x^2 + 4$ is :

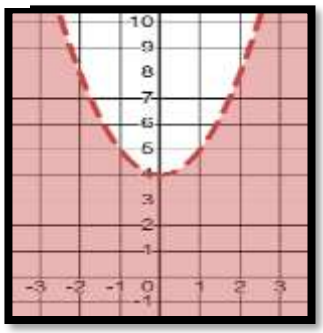
a)



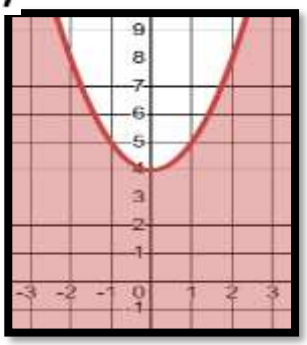
b)



c)

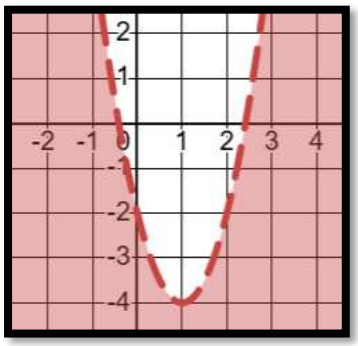


d)

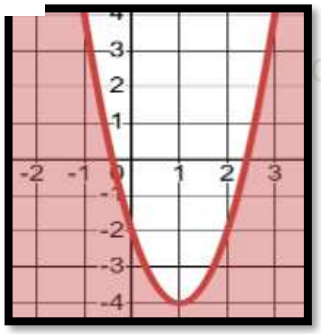


Pr(5): The graph that represents the inequality $y < 2x^2 - 4x - 2$ is :

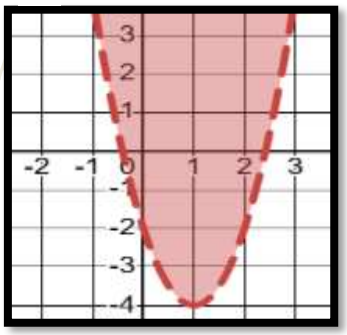
a)



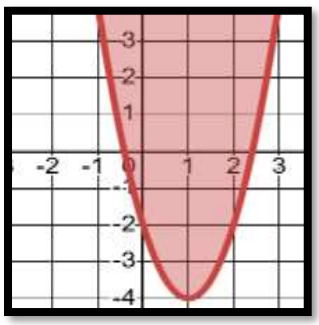
b)



c)

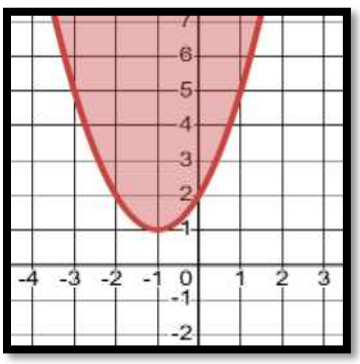


d)

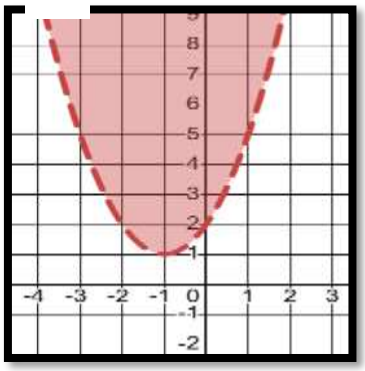


Pr(9): The graph that represents the inequality $y \geq x^2 + 2x + 2$ is :

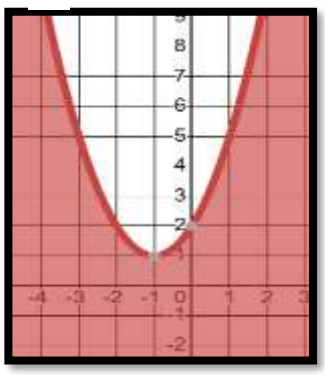
a)



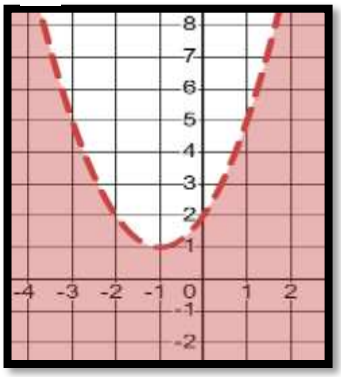
b)



c)



d)



Write a quadratic inequality for each graph.

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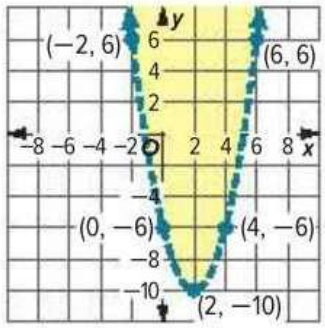
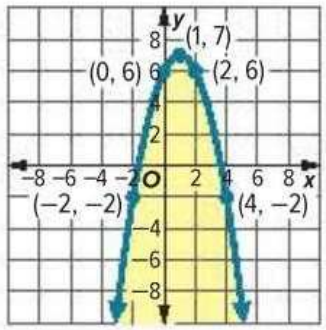
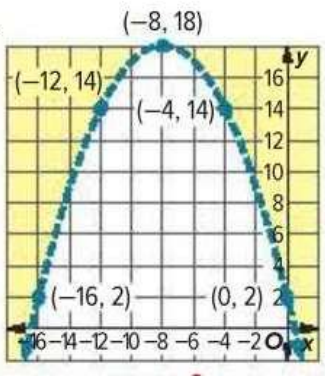
37.



38.



39.



$a)\ y < x^2 - 4x - 6$	$a)\ y \leq -x^2 + 2x - 6$	$a)\ y > -0.25x^2 - 4x + 2$
$b)\ y > x^2 - 4x - 6$	$b)\ y \geq -x^2 + 2x + 6$	$b)\ y < -0.25x^2 - 4x + 2$
$c)\ y \leq x^2 - 9x + 3$	$c)\ y \leq -x^2 + 2x + 6$	$c)\ y \leq -2x^2 - 8x + 2$
$d)\ y > x^2 + 4x + 6$	$d)\ y > -x^2 + 2x + 6$	$d)\ y > -0.5x^2 - 6x + 4$

Q(8)	Example (3)	Pages (75)	Lesson (2:1)

Example (3): State the **degree** and **leading coefficient** of each polynomial in one variable. If it is not a polynomial in one variable .

Polynomial	Degree	leading coefficient
$2x^4 - 3x^3 - 4x^2 - 5x + 6a$		
$7x^3 - 2$		
$4x^2 - 2xy + 8y^2$		
$x^5 + 12x^4 - 3x^3 + 2x^2 + 8x + 4$		

- **Select the degree and leading coefficent of a polynomial or not polynomial**

$4x^5 - x^7 - 3x^3 + 2x^2 + 8x + 4$

a) Degree : **5** , leading coefficent **4** b) Degree **:7** , leading coefficent **-1**

c) This is not a polynomial in one variable d) Degree :8 , leading coefficent **1**

- **Select the degree and leading coefficent of a polynomial or not polynomial**

$11x^3 + 5x^2 - 7x - \frac{6}{x}$

b) Degree : **3** , leading coefficent **11** b) Degree **:2** , leading coefficent **5**

c) This is not a polynomial there is term with exponent less than 0 (negative) .

d) This is not a polynomial , there is term with fraction exponent .

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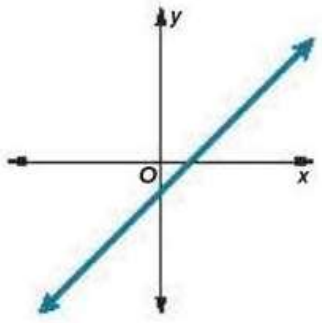
Q(9)		Lesson (2:1)
	Practice (15-20)	Pages (80)

- Use the graph to state the number of real zeros of the function.

15.



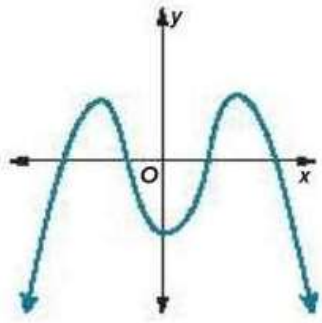
a) 0

b) 1

c) 2

d) None

16.



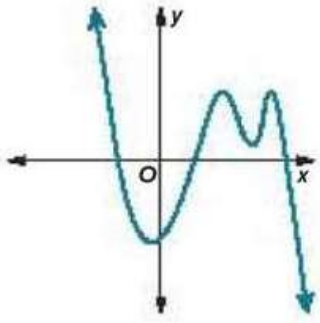
a) 2

b) 3

c) 4

d) None

17.



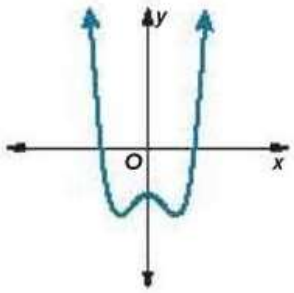
a) 2

b) 3

c) 4

d) None

18.



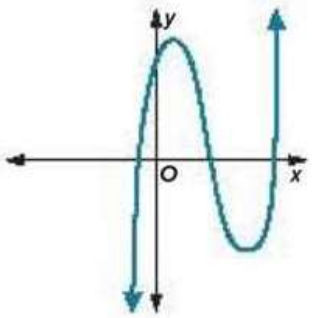
a) 2

b) 3

c) 4

d) None

19.



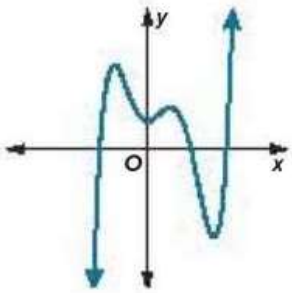
a) 2

b) 3

c) 4

d) None

20.



a) 2

b) 3

c) 4

d) None

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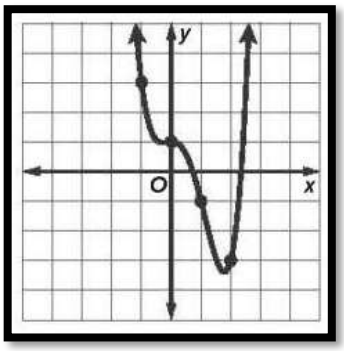
Q(10)	Example (1)	Pages (83)	Lesson (2:2)

- **Example (1)**: Determine the **consecutive integer values** of x between which each **real zero** is located. Then draw the graph.



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

a) Between $x = -1, x = 0$ *and between* $x = 1, x = 2$

a) Between $x = 0, x = 1$ *and between* $x = 2, x = 3$

b) Between $x = 0, x = 1$ *and between* $x = 3, x = 4$

a) Between $x = -2, x = -1$ *and between* $x = 1, x = 2$

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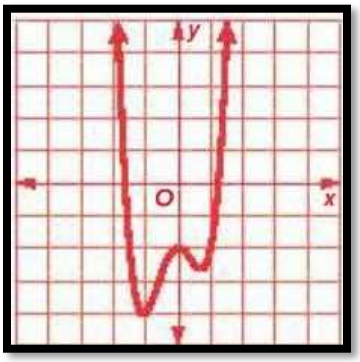

- $f(x) = 2x^4 + x^3 - 3x^2 - 2$

c) Between $x = -2, x = -1$ *and between* $x = 1, x = 2$

b) Between $x = -1, x = 0$ *and between* $x = 2, x = 3$

d) Between $x = 0, x = 1$ *and between* $x = 1, x = 2$

b) Between $x = -3, x = -3$ *and between* $x = 1, x = 2$

Q(11)	Example (2)	Pages (84)	Lesson (2:2)

- **Example (2)**: Use a table to graph, Estimate the x-coordinates at which the **relative maxima** and **relative minima** occur.
- $f(x) = x^3 + x^2 - 5x - 2$

a) The relative maxima occur near $x = -1$,and The relative minimum occur near $x = 0$
b) The relative maxima occur near $x = -3$,and The relative minimum occur near $x = 1$
c) The relative maxima occur near $x = -2$,and The relative minimum occur near $x = 1$
d) The relative maxima occur near $x = 1$,and The relative minimum occur near $x = 3$

- $f(x) = -x^4 - x^3 + 5x^2 + x - 3$

a) The relative maxima occur near $x = -2$,and $x = 1$,
The relative minimum occur near $x = 0$
b) The relative maxima occur near $x = -1$,and $x = 1$,
The relative minimum occur near $x = 0$
c) The relative maxima occur near $x = -2$,
The relative minimum occur near $x = 0$ and $x = 3$
d) The relative maxima occur near $x = -3$,
The relative minimum occur near $x = 1$

Q(12)	Example (1, 3)	Pages (94)	Lesson (2:3)

- **Example (2):** Add $(\mathbf{6x^3 + 7x^2 - 2x + 5}) + (\mathbf{x^3 - 4x^2 - 8x + 1})$

$a)\ 5x^3 + 10x^2 - 10x + 6$ $b)\ 7x^3 + 3x^2 - 10x + 6$

$c)\ 5x^3 - 10x^2 + 10x + 5$ $d)\ 6x^6 + 3x^4 - 10x^2 + 6$

- **Example (3): Find**
- $(\mathbf{2x^5 + 11x^4 + 7x - 8}) - (\mathbf{5x^4 + 9x^3 - 3x + 4})$

$a)\ 4x^5 + 6x^4 + 9x^3 + 7x - 12$ $b)\ 2x^5 + 6x^4 - 9x^3 + 10x - 12$

$c)\ 2x^5 + 4x^4 + 9x^3 + 10x + 10$ $d)\ 2x^5 + 14x^4 - 9x^3 + 4x - 4$

- $(\mathbf{8x^2 - 3x + 1}) - (\mathbf{5x^3 + 2x^2 - 6x - 9})$

$a)\ 5x^3 + 6x^2 + 5x + 3$ $b)\ 5x^3 + 10x^2 - 10x - 9$

$c)\ -5x^3 + 10x^2 - 9x - 8$ $d)\ -5x^3 + 6x^2 + 3x + 10$

Q(13)			Lesson (2:3)
	Practice (16-27)	Page (97)	

- **Multiply:**

16) $\mathbf{x^2(2x + 9)} =$

$a)\ x^3 + 9x$ $b)\ 2x^3 + 9x$ $c)\ 2x^3 + 9x^2$ $d)\ x^3 + 9x$

17) $(\boldsymbol{a-5})^2 =$

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$a)\ a^2-10a$ $b)\ a^2-10a+25$ $c)\ a^2+25$ $d)\ a^2-25$

18) $(\boldsymbol{2x-3})(\boldsymbol{3x-5}) =$

$a)\ 6x^2-19x+15$ $b)\ 6x^2-x+15$

$c)\ 6x^2+19x-15$ $d)\ 5x^2-9x-15$

19) $(\boldsymbol{x-y})(x^2+2xy+y^2) =$

$a)\ x^3-x^2y+xy^2+y^3$ $b)\ x^3+x^2y-xy^2-y^3$

$c)\ x^3-2x^2y+2xy^2+y^3$ $d)\ x^3+3x^2y+3xy^2-y^3$

27) A rectangular deck is built around a square pool. The pool has side length **s**. The length of the deck is **5 units longer than twice the side** length of the pool. The width of the deck is **3 units longer than the side** length of the pool. **What is the area of the deck in terms of s?**

* بني سطح مستطيل حول حوض سباحة مربع. طول ضلع الحوض S ، طول السطح أطول بخمس وحدات من ضعف طول ضلع الحوض. عرض السطح أطول بثلاث وحدات من طول ضلع الحوض. ما مساحة السطح بالنسبة لـ S ؟

$a)\ A=2s^2-11s+5$ b) $A=2s^2+s+15$

$c)\ A=s^2+11s+5$ d) $A=2s^2+11s+15$

19. $(x-y)(x^2+2xy+y^2)$
$x^3+x^2y-xy^2-y^3$

20. $(a+b)(a^3-3ab-b^2)$
$a^4+a^3b-3a^2b-4ab^2-b^3$

21. $(x-y)(x+y)(2x+y)$
$2x^3+x^2y-2xy^2-y^3$

22. $(a+b)(2a+3b)(2x-y)$
$4a^2x-2a^2y+10abx-5aby+6b^2x-3b^2y$

23. $(r-2t)(r+2t)$
r^2-4t^2

24. $(3y+4)(2y-3)$
$6y^2-y-12$

25. $(x^3-3x^2+1)(2x^2-x+2)$
$2x^5-7x^4+5x^3-4x^2-x+2$

26. $(4x^5+x^3-7x^2+2)(3x-1)$
$12x^6-4x^5+3x^4-22x^3+7x^2+6x-2$

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Q(14)	Example (1,2, 3)	Page (102)	Lesson (2:4)

- **Example (1)**:Divide a polynomial by a monomial . T. Mohammed Rashed Alzzen
- $(\mathbf{24a^4b^3 + 18a^2b^2 - 30ab^3})(\mathbf{6ab})^{-1}$

$a)\ 4a^3\mathbf{b^2} + 3ab - 5\mathbf{b^2}$ $b)\ 4a^2\mathbf{b^3} + 6ab + 5\mathbf{b^2}$

$c)\ 4a^2\mathbf{b^2} + 3\mathbf{a^2}b - 5\mathbf{ab}$ $d)\ 6a^3\mathbf{b^3} + 9ab + 5\mathbf{b^2}$

- $\left(\mathbf{9x^9y^5 + 21x^4y^4 - 12x^3y^2}\right) \div \ (\mathbf{3x^2y^2})$

$a)\ 3x^7\mathbf{y^4} + 7\mathbf{x^3y^3} + 4x$ $b)\ 3x^5\mathbf{y^4} + 7\mathbf{xy} - 4x$

$c)\ 3x^7\mathbf{y^3} + 7\mathbf{x^2y^2} - 4x$ $d)\ 3x^{11}\mathbf{y^7} + 7\mathbf{x^6y^6} - 4\,x^5\mathbf{y^4}$

- **Example (2)**: $(\mathbf{x^2 - 5x - 36}) \div \ (\mathbf{x + 4})$

$a)\ \ x + 9\ , R = 0$ $b)\ \ x - 9\ , R = 0$

$c)\ \ x + 4\ \ , R = 0$ $d)\ \ x - 3\ , R = 2$

- $\frac{\mathbf{x^2+6x-112}}{x-8} =$ T. Mohammed Rashed Alzzen

$a)\ \ x + 10\ , R = 0$ $b)\ \ x - 12\ , R = 2$

$c)\ \ x + 14\ \ , R = 0$ $d)\ \ x - 14\ , R = 0$

- **Example (3)**: $\frac{\mathbf{3z^3-14z^2-7z+3}}{z-5} =$

$a)\ \ \mathbf{3z^2 + z - 2}\ , R = -7$ $b)\ \ \mathbf{3z^2 - z + 2}\ \ , R = 5$

$c)\ \ \mathbf{3z^2 + 2z - 4}\ , R = 0$ $d)\ \ \mathbf{3z^2 - 3z + 4}\ , R = -5$

Q(15)	Example (6,7)	Page 126	Lesson (3:2)
	Practice (16-27)	Page (128)	

- **Example (6) & Practice (16-21):** Write each expression in Quadratic form. If possible.

$*$ $\mathbf{4x^{20} + 6x^{10} + 15}$

$a)$ $\mathbf{(4x^{10})^2 + (6x^{10}) + 15}$ $b)$ $\mathbf{(2x^{10})^2 + 3(2x^{10}) + 15}$

$c)$ $\mathbf{4(x^{10})^2 + 6(x^{10}) + 15}$ $d)$ $b\ and\ c$

$*$ $\mathbf{10x^4 + 100x^8 - 9}$

$a)$ $\mathbf{(10x^4)^2 + (10x^4) - 9}$ $b)$ $\mathbf{10(10x^4)^2 + 10(x^4) - 9}$

$c)$ $\mathbf{4(5x^4)^2 + 2(5x^4) - 9}$ $d)$ $a\ and\ c$

16) $\mathbf{x^4 + 12x^2 - 8}$

$a)$ $\mathbf{(x^4)^2 + (x^2) - 8}$ $b)$ $\mathbf{(x^2)^2 + 6(2x^2) - 8}$

$c)$ $\mathbf{(x^2)^2 + 12(x^2) - 8}$ $d)$ $a\ and\ c$

20) $\mathbf{9x^8 - 21x^4 + 12}$

$a)$ $\mathbf{(9x^4)^2 + 7(3x^4) + 12}$ $b)$ $\mathbf{(3x^4)^2 - 7(3x^4) + 12}$

$c)$ $\mathbf{3(3x^4)^2 + 7(3x^4) + 12}$ $d)$ $\mathbf{9(x^4)^2 + 7(3x^4) + 12}$

21) $\mathbf{16x^{10} + 2x^5 + 6}$

$a)$ $\mathbf{8(2x^5)^2 + (2x^5) + 6}$ $b)$ $\mathbf{(4x^5)^2 + (2x^5) + 6}$

$c)$ $\mathbf{16(x^5)^2 + (2x^5) + 6}$ $d)$ $\mathbf{4(2x^5)^2 + (2x^5) + 6}$

- **Example (7) & Practice (22-27):** Solve each equation.
- $\mathbf{8x^4 + 10x^2 - 12 = 0}$

$a)$ $\pm \frac{\sqrt{3}}{2}, \pm i\sqrt{2}$ $b)$ $\pm \frac{\sqrt{5}}{2}, \pm i\sqrt{3}$ $c)$ $\pm \frac{1}{2}, \pm i\sqrt{2}$ $d)$ $\pm \frac{\sqrt{7}}{2}$

23) $x^4 - 3x^2 - 10 = 0$

$a) \pm\sqrt{5}$ $b)$ $,\pm\sqrt{3}$ $c) \pm\sqrt{2}$ $d) \pm \frac{\sqrt{3}}{2}$

24) $4x^4 - 14x^2 + 12 = 0$

$a) \pm\sqrt{3}$ $b)$ $,\pm\sqrt{3}, \pm \frac{\sqrt{6}}{2}$ $c) \pm\sqrt{2}, \pm \frac{\sqrt{6}}{2}$ $d) \pm 3, \pm \frac{\sqrt{3}}{2}$

26) $4x^4 - 5x^2 - 6 = 0$

$a) \pm\sqrt{2}$ $b)$ $,\pm\sqrt{3}$ $c) \pm\sqrt{5}$ $d) \pm\sqrt{7}$

27) $24x^4 + 14x^2 - 3 = 0$

$a) \pm \frac{\sqrt{6}}{6}$ $b) \pm \frac{\sqrt{3}}{3}$ $c) \pm \frac{\sqrt{2}}{2}$ $d) \pm \frac{\sqrt{5}}{2}$

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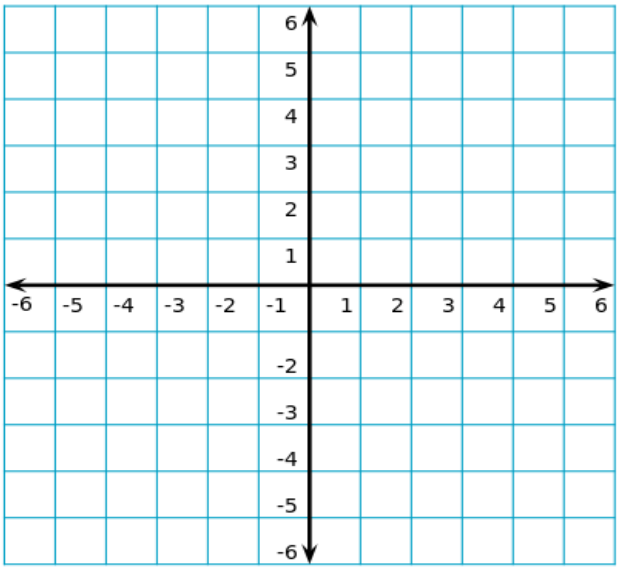
Q(16)	Example (1,2)	Page (217,218)	Lesson (5:1)

- **Example (1)**:Graph each function , then find the domain , range , y-intercept , asymptote and endbehavior

*** $f(x) = 2^x$

Domain	
Range	
y-intercept	
Asymptote	
endbehavior	



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*** $f(x) = 3^x - 2$

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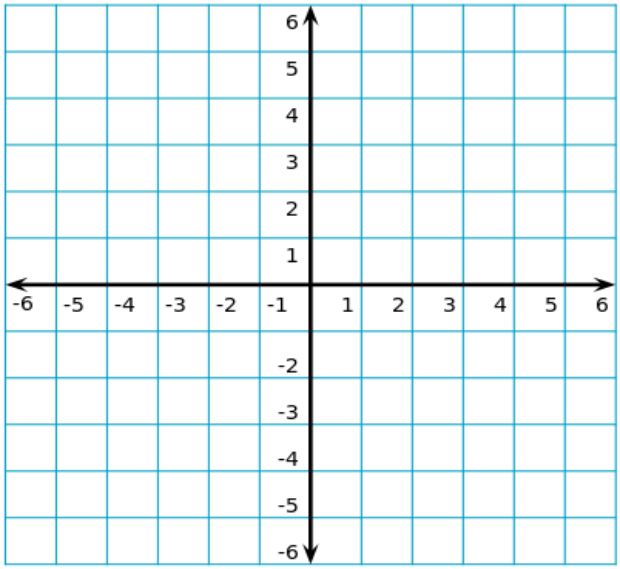
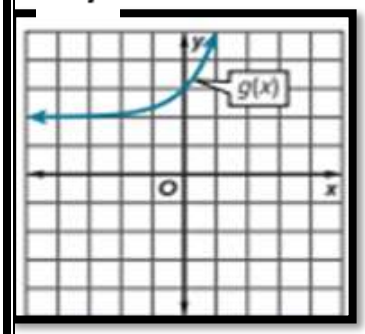
Domain	
Range	
y-intercept	
Asymptote	
endbehavior	

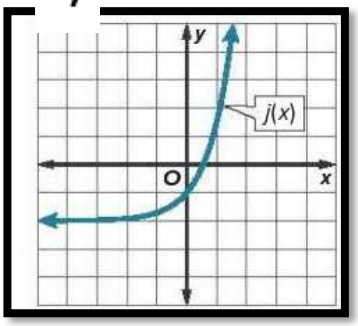


- **Example (2)**: Graph $g(x) = -\frac{1}{2} \cdot 3^{x+4} + 1$

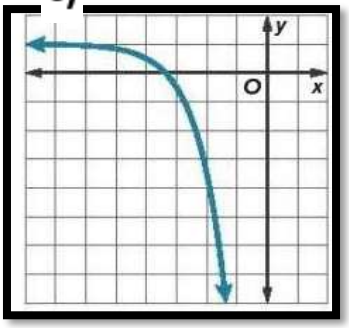
a)



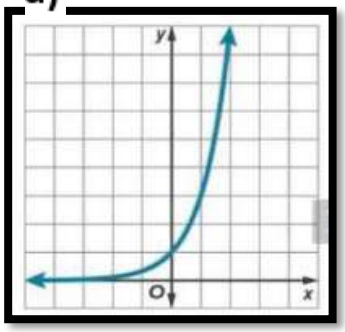
b)



c)



d)



- Graph $f(x) = 3^{x-2} - 1$

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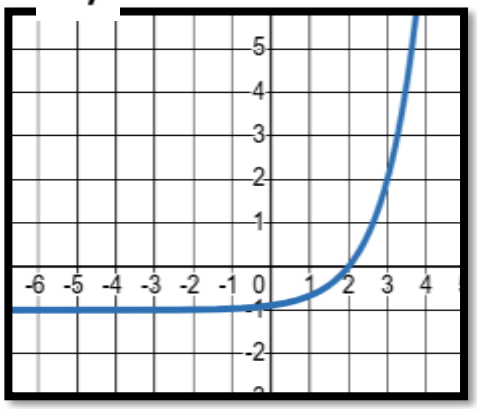
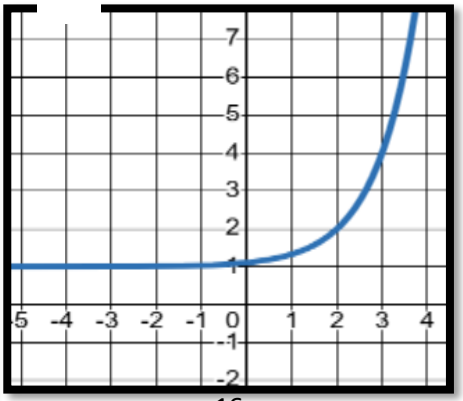
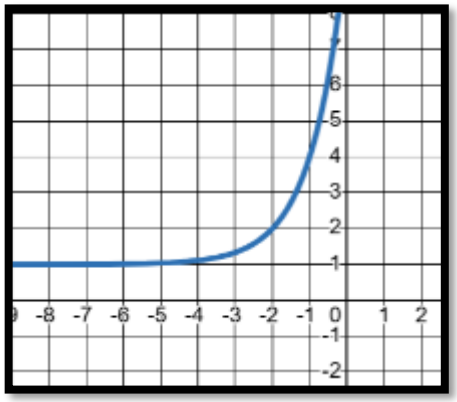
a)



b)



c)



Q(17)	Example (6 , 7)	Page (219,220)	Lesson (5:1)

- **Example (6)**:Graph each function , then find the domain , range , y-intercept , asymptote and endbehavior

*** $f(x) = (\frac{1}{2})^x$

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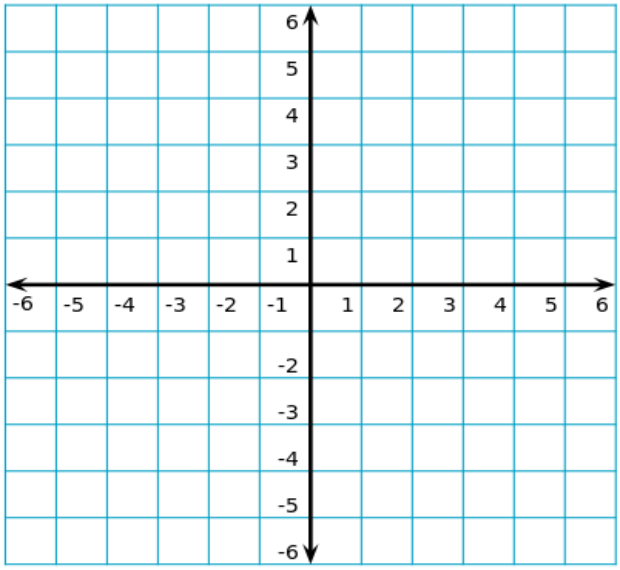
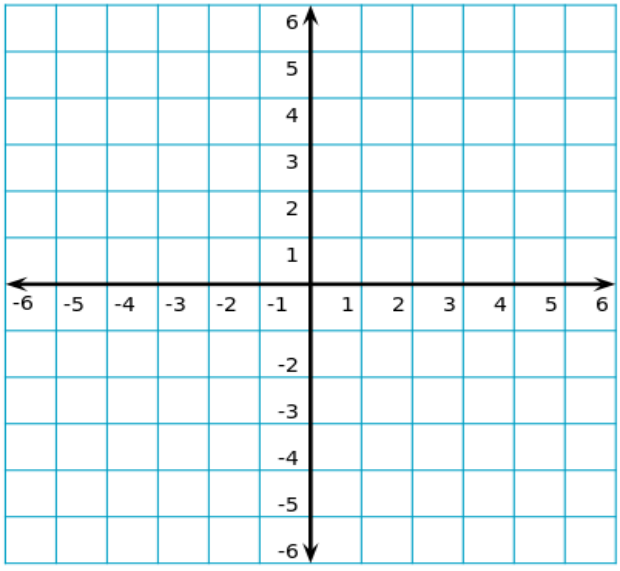
Domain	
Range	
y-intercept	
Asymptote	
endbehavior	



*** $f(x) = \left(\frac{1}{4}\right)^x + 1$

Domain	
Range	
y-intercept	
Asymptote	
endbehavior	



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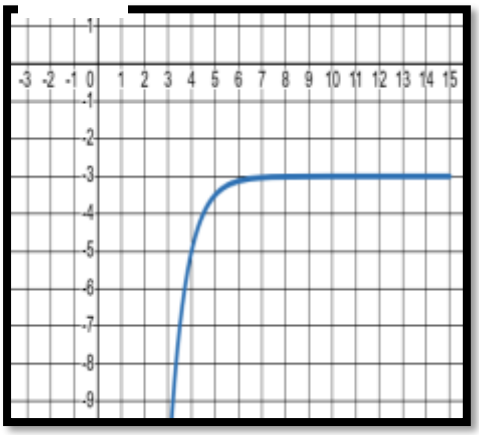
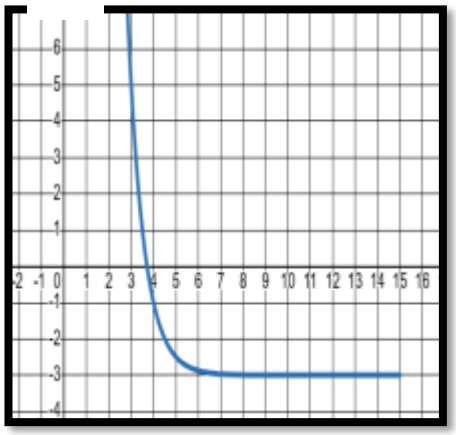
- **Example (7)**: Graph $g(x) = -2(\frac{1}{4})^{x-4} + 3$

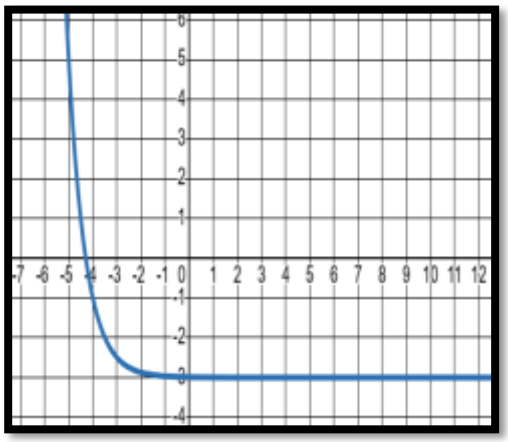
a)



b)



c)



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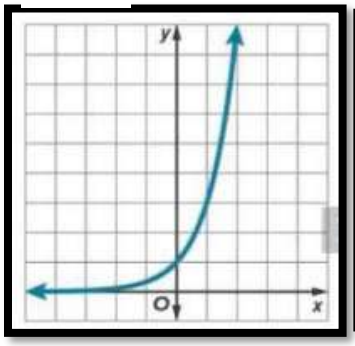
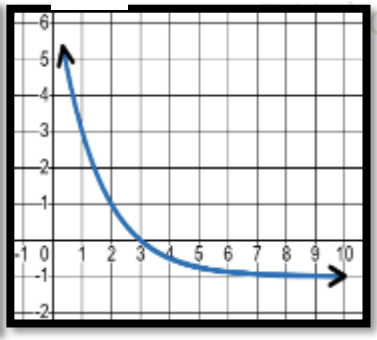
- Graph $f(x) = 3 \cdot (\frac{1}{2})^{x-2} - 1$

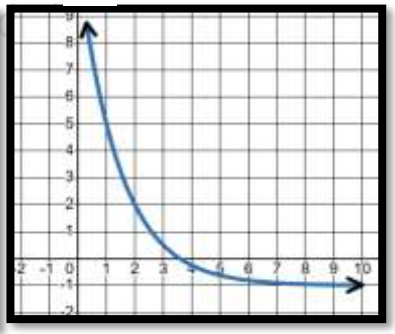
a)



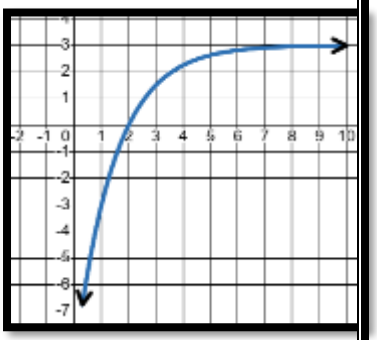
b)



c)



d)



T.Mohammed Rashed Al-Zen	Types of Studies أنواع الدراسات
Survey استطلاع	Data are collected from responses given by members of a group regarding their characteristics, behaviors, or opinions. يتم جمع البيانات من الاستجابات التي قدمها أعضاء المجموعة فيما يتعلق بخصائصهم أو سلوكياتهم أو آرائهم.
Experiment تجربة	The sample is divided into two randomly selected groups: the experimental group and the control group. The effect on the experimental group is then compared to the control group. قُسِّمت العينة إلى مجموعتين تم اختيارهما عشوائيًا: المجموعة التجريبية والمجموعة الضابطة. ثم قُورن تأثير المجموعة التجريبية بتأثير المجموعة الضابطة.
observational study دراسة مسحيّة	Members of a sample are measured or observed without being affected by the study. يتم قياس أو ملاحظة أعضاء العينة دون أن يتأثروا بالدراسة.

Q(18)	Example (4)	Page (373)	Lesson (8:1)
	Practice (11-14)	Page (376)	

- Determine whether each situation describes a **survey**, an **experiment**, or an **observational** study.

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Example (4) : A research team wants to test new football uniform designs and their appeal to young adults. They randomly select 100 young adults to view the different uniforms. The research team **observes** and records the **reactions** to the uniforms.

- يسعى فريق بحثي لاختبار تصاميم جديدة لأزياء كرة القدم ومدى جاذبيتها للشباب. اختاروا عشوائيًا 100 شاب وفتاة لمشاهدة مختلف هذه الأزياء. راقب الفريق البحثي **ردود الأفعال** لهم وقام **بتسجيلها**.

a) Survey b) Experiment C) Observational Study d) Census

Pr(11) : An Internet service provider conducts an online study in which customers are randomly selected and asked to provide feedback on their customer service.

يُجري مزود خدمة إنترنت دراسة عبر الإنترنت، حيث يتم اختيار العملاء عشوائيًا ويُطلب منهم تقديم تغذية راجعة حول خدمة العملاء المقدمة لهم.

a) Survey b) Experiment C) Observational Study d) Census

Pr(12) : A research group randomly selects 100 business owners, half of whom started their own businesses, and compares their success.

تختار مجموعة بحثية 100 صاحب عمل عشوائيًا، نصفهم بدأوا أعمالهم الخاصة، وتُقارن نجاحهم.

a) Survey b) Experiment C) Observational Study d) Census

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Pr(13) : A research group randomly chooses 50 people to participate in a study to determine whether exercising regularly reduces the risk of diabetes in adults.

تختار مجموعة بحثية 50 شخصًا عشوائيًا للمشاركة في دراسة لتحديد ما إذا كانت ممارسة الرياضة بانتظام تُقلل من خطر الإصابة بمرض السكري لدى البالغين.

a) Survey b) Experiment C) Observational Study d) Census

Pr(14) : An online video streaming service mails a questionnaire to randomly selected people across the country to determine whether they prefer streaming movies or sports.

تُرسل خدمة بث فيديو عبر الإنترنت استبيانًا إلى أشخاص مُختارين عشوائيًا من جميع أنحاء البلاد لتحديد ما إذا كانوا يُفضلون بث الأفلام أم الرياضة.

a) Survey b) Experiment C) Observational Study d) Census

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Check Example (4) :

- A principal wants to determine the favorite after-school activity of his students.

a) Survey b) Experiment C) Observational Study d) Census

- A researcher wants to determine whether young adults would be interested in a new line of smartwatches entering the market.

b) Survey b) Experiment C) Observational Study d) Census

- A teacher wants to determine whether bright colors affect the test-taking abilities of high school students.

c) Survey b) Experiment C) Observational Study d) Census

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Q(19)	Example (3)	Page (372)	Lesson (8:1)
	Practice (7-10)	Page (375)	

- **Example (3)**: Identify each sample or question as **biased** or **unbiased**.
- حدّد كل عينة أو سؤال على أنه متحيز أو غير متحيز.

- A restaurant owner wants to determine which kinds of meals she should add to her menu: vegetarian options or more traditional meat-based dishes. She releases a survey to her customers asking the following question: Do you prefer a plain salad or a delicious steak?.....

- ترغب صاحبة مطعم في تحديد أنواع الوجبات التي ينبغي إضافتها إلى قائمة طعامها: خيارات نباتية أم أطباق لحوم تقليدية. تُجري استطلاع رأي لعملائها يطرح السؤال التالي: هل تُفضلون سلطة عادية أم شريحة لحم لذيذة؟.....

Pr(5): Every tenth student at band camp is asked to name his or her favorite band for a survey about the campers.

- طلب من كل عاشر طالب في مخيم الفرقة الموسيقية تسمية فرقته الموسيقية المفضلة لاستطلاع رأي حول المشاركين.

Pr(6): Every fifth person entering a museum is asked to name his or her favorite type of book to read for a survey about the reading interests of people in the city.

- طُلب من كل خامس شخص يدخل متحفًا تسمية نوع كتابه المفضل للقراءة لاستطلاع رأي حول اهتمامات القراءة لدى سكان المدينة.

Pr(7): Do you think that the workout facility needs a new treadmill and racquetball court?

- هل تعتقد أن منشأة التمارين الرياضية بحاجة إلى جهاز مشي جديد وملعب راكيت بول؟

Pr(8): Which is your favorite type of music, pop, or country?

- ما هو نوع الموسيقى المفضل لديك، موسيقى البوب، أم موسيقى الريف؟

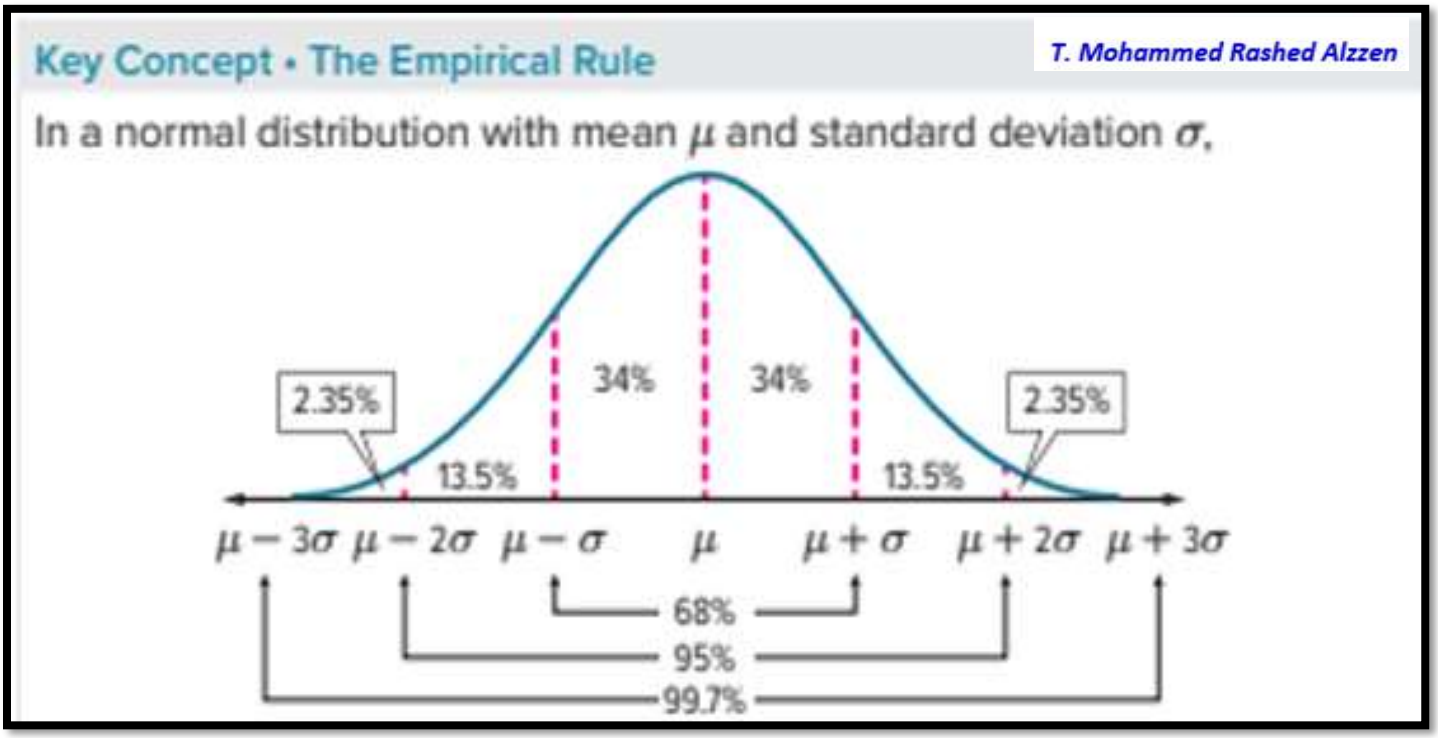
Pr(9): Are you a member of any after-school clubs?

- هل أنت عضو في أي نوادي ما بعد المدرسة؟

Pr(10): Don't you agree that employees should pack their lunch?

- ألا توافق على أن الموظفين يجب أن يحضروا غداءهم؟

Q(20)	Concepts and The Empirical Rule	Page (396)	Lesson (8:4)



- Approximately **68%** of the data fall within 1σ of the **mean**.
- Approximately **95%** of the data fall within **2σ** of the mean.
- Approximately **99.7%** of the data fall within **3σ** of the mean.
- When a set of data is **not approximately normal**, it cannot be represented by the **Empirical Rule**.
- **Example** : **Skewed data** is one example of a set of data that is not approximately normal.
  - البيانات هي الملتوية: من الأمثلة على مجموعة البيانات التي لا تمثل توزيعا طبيعيا تقريبا.
- 50% of the data is more than the **mean μ**.

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Q(21)		Lesson (1:6)
	Practice (1-6),(12-13) Page (47)	

- Solve each equation by using the **Quadratic Formula**.

1) $x^2 + 8x + 15 = 0$

2) $x^2 - 18x + 72 = 0$

3) $12x^2 - 22x + 6 = 0$

5) $x^2 + 8x + 5 = 0$

6) $-8x^2 + 4x = -5$

12) $x^2 + x - 8 = 0$

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Q(22)	Examples (4 , 5)	Page (103,104)	Lesson (2:4)

- **Use Synthetic Division to find**

$Ex(4)$: $(3x^3 - 2x^2 - 53x - 60) \div (x + 3)$

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$$\boldsymbol{Ex(5):}\ \frac{\boldsymbol{4x^4-37x^2+4x+9}}{\boldsymbol{2x-1}}$$

❖ $\boldsymbol{practice}\ (*)\ :\quad \boldsymbol{(x^2+4x+3)\,(x+1)^{-1}}$

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Q(23)		Lesson (3:2)
	Practice (1-10) Page (127)	

- **A)** Factor completely , if the polynomial is not factorable . Write prime.

1) $\boldsymbol{8c^3-27d^3}$

2) $\boldsymbol{64x^4+xy^3}$

3) $\boldsymbol{a^8-a^2b^6}$

4) $\boldsymbol{x^6y^3+y^9}$

5) $18x^6 + 5y^6$

6) $w^3 - 2y^3$

B) Factor completely .

7) $gx^2 - 3hx^2 - 6fy^2 - gy^2 + 6fx^2 + 3hy^2$

8) $12ax^2 - 20cy^2 - 18bx^2 - 10ay^2 + 15by^2 + 24cx^2$

9) $a^3x^2 - 16a^3x + 64a^3 - b^3x^2 + 16b^3x - 64b^3$

10) $8x^5 - 25y^3 + 80x^4 - x^2y^3 + 200x^3 - 10xy^3$

Q(24)		Lesson (5:2)
Practice (1-6)	Page (229)	

- Solve each equation .

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1) $25^{2x+3} = 25^{5x-9}$

2) $9^{8x-4} = 81^{3x+6}$

3) $4^{x-5} = 16^{2x-31}$

4) $4^{3x-3} = 8^{4x-4}$

5) $9^{-x+5} = 27^{6x-10}$

6) $125^{3x-4} = 25^{4x+2}$

Q(25)	Example (8)	Page (400)	Lesson (8:4)
	Practice (14)	Page (402)	

- **Example (8)**: The number of daily hits to a local news website is normally distributed with **μ = 98,452** hits and $\sigma = 10325$ hits. Find the probability that the website will get at least **100,000** hits on a given day, **P(X > 100,000).**

- عدد الزيارات اليومية لموقع إخباري محلي موزعٌ توزيعًا طبيعيًا بمتوسط حسابي **μ = 98,452** زيارة ، وانحراف معياري $\sigma = 10325$ زيارة. أوجد احتمال أن يحصل الموقع على 100,000 زيارة على الأقل في يوم معين . **P(X > 100,000).**

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- **Check** : The length of time that a customer spends waiting to be connected to a customer service representative is normally distributed with **a mean of 21.3** seconds and a **standard deviation of 3.8** seconds. Find the probability that a wait time will **be greater than 30 seconds**.

- **Practice (14):** The scores on a test administered to prospective employees are normally distributed with **a mean of 100** and a **standard deviation of 12.3**.

- تُوزّع درجات اختبار أُجري على موظفين محتملين توزيعًا طبيعيًا بمتوسط حسابي قدره 100 وانحراف معياري قدره **12.3.**

A) What **percent** of the scores are between 70 and 80?

ا) ما نسبة الدرجات التي تتراوح بين 70 و80 ؟

B) What **percent** of the scores are over 115?

ب) ما نسبة الدرجات التي تزيد عن 115؟

C) If 75 people take the test, how many would you expect to score lower than 75 ?

ج) إذا خضع 75 شخصًا للاختبار، فكم منهم تتوقع أن يحصلوا على درجات أقل من 75 ؟