ملزمة أسئلة مراجعة وفق الهيكل الوزاري منهج ريفيل

موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف الحادي عشر العام ⇦ رياضيات ⇦ الفصل الأول ⇦ ملفات متنوعة ⇦ الملف
تاريخ إضافة الملف على موقع المناهج: 04-11-2024 00:51:15
المزيد من مادة رياضيات: 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
إعداد: Abdelaziz Moustafa

التواصل الاجتماعي بحسب الصف الحادي عشر العام

صفحة المناهج الإماراتية على فيسبوك				
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

المزيد من الملفات بحسب الصف الحادي عشر العام والمادة رياضيات في الفصل الأول

1	حل تجميعة أسئلة وفق الهيكل الوزاري حسب منهج بريدج
2	تجميعة أسئلة وفق الهيكل الوزاري حسب منهج بريدج
3	حل تجميعة أسئلة وفق الهيكل الوزاري حسب منهج بريدج
4	تجميعة أسئلة وفق الهيكل الوزاري منهج بريدج
5	ملزمة تجميعة أسئلة وفق الهيكل الوزاري منهج بريدج

مدرسة الحصن للتعليم الثانوي

أسئلة الهيكل للرياضيات

الصف الحادي عشر عام

الفصل الدراسي الأول للعام 2025/2024

كلنا ناجحون بإذن الله

أبنائي الطلاب....

العلم هو الوسيلة الوحيدة التي يرتفع بها شأن الانسان إلى مراتب الكرامة والشرف....

الأستاذ. مصطفى عبد العزيز
مدرسة الحصن للتعليم الثانوي

Determine the average rate of change of f(x) over the specified interval.

13. $f(x) = x^2 - 10x + 5$; $interval\ [-4, 4]$

14. $f(x) = 2x^2 + 4x - 6$; $interval\ [-3, 3]$

15. $f(x) = 3x^2 - 3x + 1$; $interval\ [-5, 5]$

16. $f(x) = 4x^2 + x + 3$; $interval\ [-2, 2]$

17. $f(x) = 2x^2 - 11$; $interval\ [-3, 3]$

Determine the average rate of change of $f(x)$ over the specified interval.

interval $[-3, 3]$

x	f(x)
−3	0
−2	3
−1	4
0	3
1	0
2	5
3	12

interval $[-2, 2]$

| x	f(x)
−2	−3
−1	−3
0	−1
1	3
2	9

Use the related graph of each equation to determine its solutions.

1. $x^2 + 2x + 3 = 0$
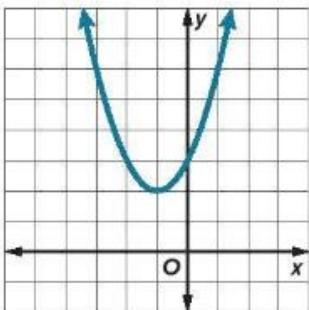
2. $x^2 - 3x - 10 = 0$
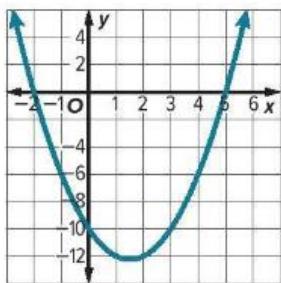
3. $-x^2 - 8x - 16 = 0$
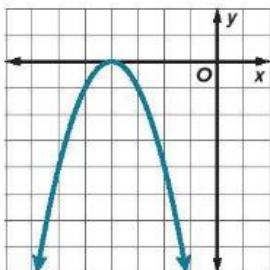
Solve each equation by graphing.

4. $x^2 - 10x + 21 = 0$

x					
$f(x)$					
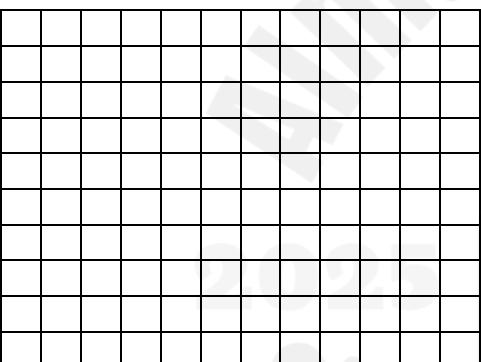
5. $4x^2 + 4x + 1 = 0$

x					
$f(x)$					
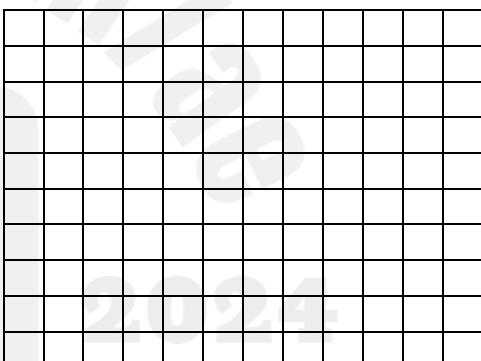
6. $x^2 + x - 6 = 0$

x					
$f(x)$					
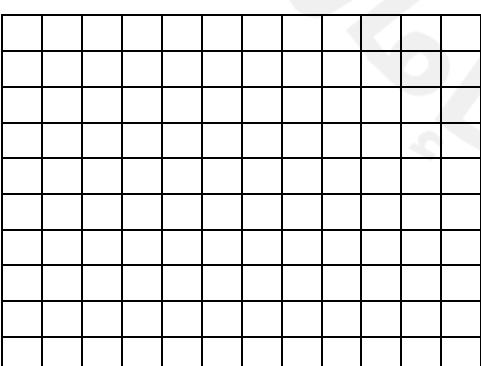
7. $x^2 + 2x - 3 = 0$

x					
$f(x)$					
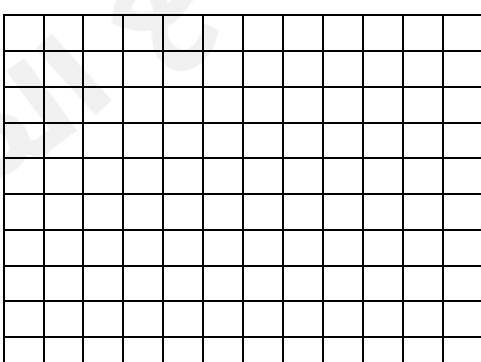
8. $x^2 - 6x - 9 = 0$

x				
$f(x)$				
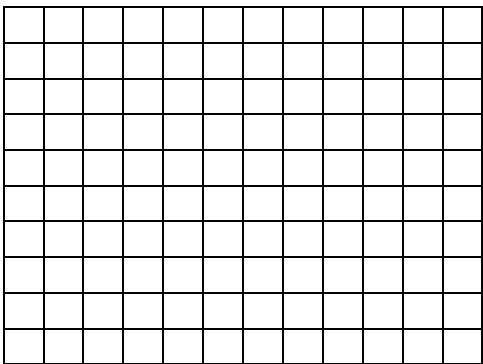
10. $x^2 + 2x + 3 = 0$

x					
$f(x)$					
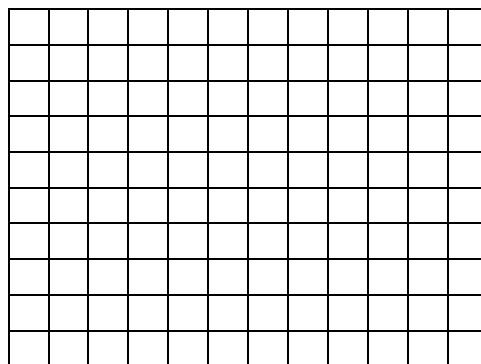
3	Solve quadratic equations by graphing	50-53	P 19

Use a quadratic equation to find two real numbers that satisfy each situation or show that no such numbers exist.

50. Their sum is 4, and their product is -117.

51. Their sum is 12, and their product is -85.

52. Their sum is -13, and their product is 42.

53. Their sum is -8, and their product is -209.

4	Perform operations with complex numbers		1-12	P 25

Simplify.

1. $\sqrt{-48}$ =

2. $\sqrt{-63}$ =

3. $\sqrt{-72}$ =

4. $\sqrt{-24}$

5. $\sqrt{-84}$

6. $\sqrt{-99}$ =

7. $\sqrt{-23} \cdot \sqrt{-46}$

8. $\sqrt{-6} \cdot \sqrt{-3}$ =

9. $\sqrt{-5} \cdot \sqrt{-10}$ =

10. $3i\,(2i)\,(5i)$ =

11. i^{11} =

12. $4i\,(-6i)^2$ =

5	Perform operations with complex numbers		25-37	P 25

Simplify

25. $(6 + i) + (4 - 5i)$ =

26. $(8 + 3i) - (6 - 2i)$ =

27. $(5 - i) - (3 - 2i)$ =

28. $(-4 + 2i) + (6 - 3i)$ =

29. $(6 - 3i) + (4 - 2i)$ =

30. $(-11 + 4i) - (1 - 5i)$ =

31. $(2 + i)(3 - i)$ =

32. $(5 - 2i)(4 - i)$ =

33. $(4 - 2i)(1 - 2i)$ =

34. Using the formula V = CI, find the voltage V in a circuit when the current C = 3 - j amps and the impedance I = 3 + 2j ohms.

35. $\dfrac{5}{3+i}$ =

Mr. Moustafa Abdelaziz   Al-Hosn Secondary School   11 - G

36. $\dfrac{7-13i}{2i} =$

37. $\dfrac{6-5i}{3i} =$

| 6 | Solve quadratic equations by factoring | 15-32 | P 41 |

Solve each equation by using the Square Root Property.

15. $2x^2 + 28x + 98 = -200$

16. $x^2 - 8x + 16 = -36$

17. $3x^2 + 24x + 48 = -108$

18. $3x^2 - 24x + 48 = -363$

Solve each equation by completing the square.

25. $x^2 - 13x + 36 = 0$ 26. $x^2 + x - 6 = 0$

27. $x^2 - x - 3 = 0$ 30. $x^2 - 8x - 65 = 0$

31. When the dimensions of a cube are reduced by 4 inches on each side, the surface area of the new cube is 864 square inches. What were the dimensions of the original cube?

Solve each equation by completing the square.

32. $2x^2 - 8x - 24 = 0$

33. $2x^2 - 3x + 1 = 0$

| 7 | Complete the square in the case of a trinomial that is not a perfect square | 19--24 | P 39 |

Find the value of c that makes each trinomial a perfect square. Then write the trinomial as a perfect square trinomial.

19. $x^2 + 10x + c$

20. $x^2 - 14x + c$

21. $x^2 + 24x + c$

22. $x^2 + 5x + c$

23. $x^2 - 9x + c$

24. $x^2 - x + c$

| 8 | Write each function in vertex form | 44- 49 | P 40 |

Write each function in vertex form. Find the axis of symmetry. Then find the vertex and determine if it is a maximum or minimum.

44. $y = x^2 + 2x - 5$

45. $y = x^2 + 6x + 1$

46. $y = -x^2 + 4x + 2$

47. $y = -x^2 - 8x - 5$

48. $y = 2x^2 + 4x + 3$

49. $y = 3x^2 + 6x - 1$

9	Solve quadratic inequalities in one variable	21-29	P 55

Solve each quadratic inequality by using a graph, a table, or algebraically.

21. $-2x^2 + 12x < -15$

22. $5x^2 + x + 3 \geq 0$

23. $11 \leq 4x^2 + 7x$

24. $x^2 - 4x \leq -7$

28. $x^2 - 3x + 2 \leq 0$ 　　　　　　　　　29. $x^2 + 10x + 7 \geq 0$

| 10 | Graph polynomial functions and locate their zeros | Example 5 | P 77 |

Use the graph to state the number of real zeros of the function.
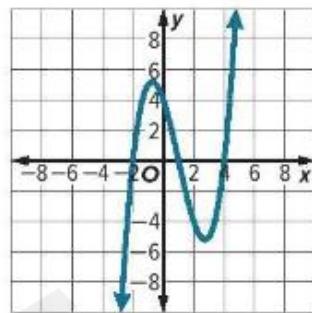
| 11 | Find the relative maxima and minima of polynomial functions | Example 2 | P 84 |

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

x	f(x)
−4	−30
−3	−5
−2	4
−1	3
0	−2
1	−5
2	0
3	19
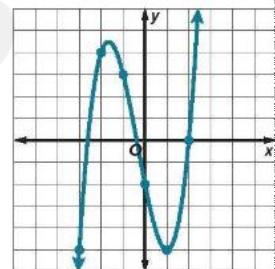
The value of f(x) at x = −2 is greater than the surrounding points indicating a maximum *near* x = −2.

The value of f(x) at x = 1 is less than the surrounding points indicating a minimum *near* x = 1.

Simplify.

30. $5xy(2x - y) + 6y^2(x^2 + 6)$

31. $3ab(4a - 5b) + 4b^2(2a^2 + 1)$

32. $\frac{1}{4}g^2(8g + 12h - 16gh^2)$

33. $\frac{1}{3}n^3(6n - 9p + 18np^4)$

34. $(g^3 - h)(g^3 + h)$

35. $(n^2 - 7)(2n^3 + 4)$

36. $(2x - 2y)^3$

37. $(4n - 5)^3$

39. $\frac{1}{4}(16x - 12y) + \frac{1}{3}(9x + 3y)$

Simplify using synthetic division.

11. $(3v^2 - 7v - 10)(v - 4)^{-1}$

12. $(3t^4 + 4t^3 - 32t^2 - 5t - 20)(t + 4)^{-1}$

13. $\dfrac{y^3 + 6}{y + 2}$

14. $\dfrac{2x^3 - x^2 - 18x + 32}{2x - 6}$

15. $(4p^3 - p^2 + 2p) \div (3p - 1)$

10

16. $(3c^4 + 6c^3 - 2c + 4)(c + 2)^{-1}$

14	Use the factor theorem to determine factores of polynomials	23 - 30	P 139

Given a polynomial and one of its factors, find the remaining factors of the polynomial.

23. $x^3 - 3x + 2 \; ; \; x + 2$

24. $x^4 + 2x^3 - 8x - 16 \; ; \; x + 2$

25. $x^3 - x^2 - 10x - 8 \; ; \; x + 2$

26. $x^3 - x^2 - 5x - 3 \; ; \; x - 3$

27. $2x^3 + 17x^2 + 23x - 42 \; ; \; x - 1$

28. $2x^3 + 7x^2 - 53x - 28 \; ; \; x - 4$

29. $x^4 + 2x^3 + 2x^2 - 2x - 3 \; ; \; x - 1$

30. $x^3 + 2x^2 - x - 2 \; ; \; x + 2$

15	Solve polynomial equations by factoring	1-10	P 127

Factor completely. If the polynomial is not factorable, write prime.

1. $8c^3 - 27d^3$

2. $64x^4 + xy^3$

3. $a^8 - a^2 b^6$

4. $x^6 y^3 + y^9$

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

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

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

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

From 27 to 32

a. Find the y-intercept, the equation of the axis of symmetry, and the x-coordinate of the vertex.

b. b. Make a table of values that includes the vertex.

c. c. Use this information to graph the function.

27. $f(x) = 2x^2 - 6x - 9$ **28.** $f(x) = -3x^2 - 9x + 2$

x					
$f(x)$					
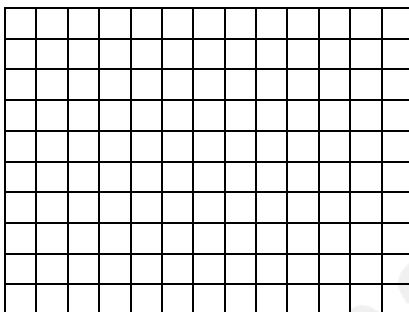
x					
$f(x)$					
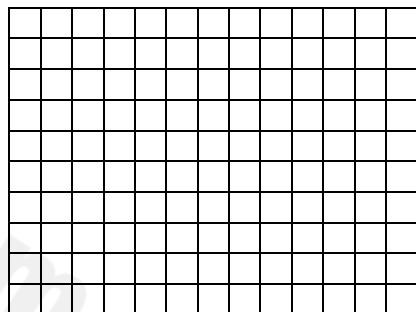
29. $f(x) = -4x^2 + 5x$ **32.** $f(x) = -0.75x^2 + 4x + 6$

x					
$f(x)$					
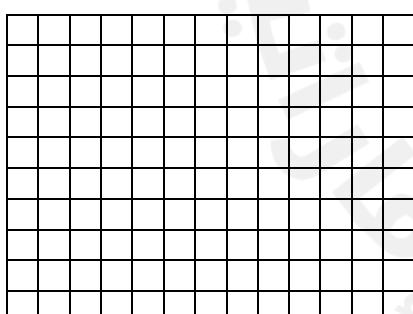
x					
$f(x)$					
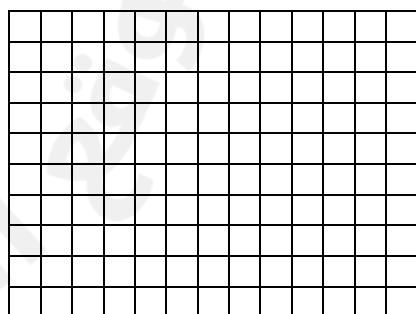
Solve each equation by using the Quadratic Formula.

8. $x^2 + 2x - 35 = 0$

10. $2x^2 - x - 15 = 0$

11. $3x^2 + 5x = 2$

13. $16x^2 - 24x - 25 = 0$

14. $x^2 + x - 8 = 0$

15. $8x^2 + 5x - 1 = 0$

16. $x^2 - 6x + 21 = 0$

17. $x^2 + 25 = 0$

22. $4x^2 + 2x + 9 = 0$ 　　　　　　　　　　　23. $3x^2 - 6x + 11 = 0$

| 18 | Divide polynomials using long division or synthetic division | 31-34 | 107 |

31. The volume of a cylinder is $\pi(x^3 + 32x^2 - 304x + 640)$. If the height of the cylinder is x + 40 feet, find the area of its base in terms of x and π

32. **REASONING** Rewrite $\dfrac{6x^4 + 2x^3 - 16x^2 + 24x + 32}{2x + 4}$ as $q(x) + \dfrac{r(x)}{d(x)}$ using long division.

What does the remainder indicate in this problem?

33. **CONSTRUCT ARGUMENTS** Determine whether you have enough information to fill in the missing pieces of the long division exercise shown. If so, copy and complete the long division. Justify your response.

$$
\begin{array}{r}
3x - \square \\
\square\,)\overline{9x^2 + \boxed{}} \\
\underline{9x^2 + 3x} \\
-3x + 5
\end{array}
$$

34. REGULARITY Rewrite $\dfrac{2x^5 - 7x^4 - 15x^3 + 2x^2 + 3x + 6}{2x + 3}$ as $q(x) + \dfrac{r(x)}{g(x)}$ using long division.

a. Identify $q(x)$, $r(x)$, and $g(x)$.

b. How can you check your work using the expressions of $q(x)$, $g(x)$, and $r(x)$?

19	Use Pascal's Triangle to write binomial expansions	1-12	P 111

Use Pascal's triangle to expand each binomial.

1. $(x - y)^3$

2. $(a + b)^4$

BAND A school band went to 4 competitions during the year and received a superior rating 2 times. If the band is as likely to receive a superior rating as to not receive a superior rating, find the probability of this outcome by expanding $(s + n)^4$. Round to the nearest percent if necessary.

9. $(3x + 4y)^5$

10. $(2c - 2d)^7$

11. $(8h - 3J)^4$

12. $(4a + 3b)^6$

20	Factorize polynomials		Example 2	P 120

For an exhibit with six or fewer Emperor penguins, the pool must have a depth of at least 4 ft. and a volume of at least **1620 gallons**, or about **217 ft³**, per bird. If a zoo has five Emperor penguins, what should the dimensions of the pool shown at the right be to meet the minimum requirements?   (1 ft³ =7.4805 gallon)

بالنسبة لمعرض يضم ستة طيور البطريق الإمبراطوري أو أقل، يجب أن يكون عمق المسبح 4 أقدام على الأقل وحجمه 1620 جالونًا على الأقل، أو حوالي 217 قدمًا مكعبًا، لكل طائر. إذا كانت حديقة الحيوانات تضم خمسة طيور بطريق إمبراطوري، فما هي أبعاد المسبح الموضحة على اليمين التي يجب أن تلبي الحد الأدنى من المتطلبات؟

Mr. Moustafa Abdelaziz   Al-Hosn Secondary School   11 - G