شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية

تجميعة أسئلة وفق الهيكل الوزاري

تاريخ نشر الملف على موقع المناهج: 2024-02-23 09:38:54 | اسم المدرس: مصطفى عبد العزيز

التواصل الاجتماعي بحسب الصف الحادي عشر العام

روابط مواد الصف الحادي عشر العام على تلغرام

التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

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

1	تجميعة أسئلة وفق الهيكل الوزاري باللغة الانجليزية
2	نموذج الهيكل الوزاري بريدج المسار العام
3	الاختبار القصير الأول
4	حل نماذج واختبارات قصيرة الوحدة الخامسة العلاقات والدوال العكسية والجذرية
5	شرح الدرس الأول اللوغاريتمات والدوال اللوغارتمية من الوحدة السادسة

المؤسسة الإماراتية للتعليم المدرسي

مدرسـة الحصـن للتعليم الثانوي

الفصل الدراسي الثاني (2024/2023)

Mathematics

أسئلة الهيكل

للصف الحادي عشر عام

كلنا ناجحون بإذن الله

ابنائي الطلاب....

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

الأستاذ. مصطفى عبد العزيز
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1	Find the sum, difference, product, and quotient of functions	Exercises (8-15)	P 301

Find $(f + g)(x), (f - g)(x), (f . g)(x), and \left(\frac{f}{g}\right)(x)$ for each f(x) and g(x). indicate any restrictions in domain or range.

8) $f(x) = 2x$, $g(x) = -4x + 5$

9) $f(x) = x - 1$, $g(x) = 5x - 2$

10) $f(x) = x^2$, $g(x) = -x + 1$

11) $f(x) = 3x$, $g(x) = -2x + 6$

12) $f(x) = x - 2$, $g(x) = 2x - 7$

13) $f(x) = 2x \ , \ g(x) = \ -4x + 5$

14) $f(x) = x^2 \ , \ g(x) = \ x - 5$

15) $f(x) = -x^2 + 6 \ , \ g(x) = \ 2x^2 + 3x - 5$

2	Find the composition of functions.	Exercises (21-26)	P 302

For each pair of functions, find $f \circ g$ and $g \circ f$, if they exist. State the domain and range for each composed function.

21. $f = \{(-15, -5), (-4, 12), (1, 7), (3, 9)\}$
$g = \{(3, -9), (7, 2), (8, -6), (12, 0)\}$

22. $f = \{(-1, 11), (2, -2), (5, -7), (4, -4)\}$
$g = \{(5, -4), (4, -3), (-1, 2), (2, 3)\}$

23. $f = \{(7, -3), (-10, -3), (-7, -8), (-3, 6)\}$
$g = \{(4, -3), (3, -7), (9, 8), (-4, -4)\}$

24. $f = \{(1, -1), (2, -2), (3, -3), (4, -4)\}$
$g = \{(1, -4), (2, -3), (3, -2), (4, -1)\}$

25. $f = \{(-4, -1), (-2, 6), (-1, 10), (4, 11)\}$
$g = \{(-1, 5), (3, -4), (6, 4), (10, 8)\}$

26. $f = \{(12, -3), (9, -2), (8, -1), (6, 3)\}$
$g = \{(-1, 5), (-2, 6), (-3, -1), (-4, 8)\}$

3	Graph square root inequalities	Exercises (31-38)	P 316

Graph each inequality.

31. $y < \sqrt{x - 5}$

32. $y > \sqrt{x+6}$

33. $y \geq -4\sqrt{x+3}$

34. $y \leq -2\sqrt{x-6}$

35. $y > 2\sqrt{x+7}$ - 5

36. $y \geq 4\sqrt{x-2} - 12$

37. $y \leq 6 - 3\sqrt{x-4}$

38. $y < \sqrt{4x-12} + 8$

4	Simplify radicals	Exercises (47-54)	P 322

Simplify

47) $\sqrt{19c^6d^4}$

48) $\sqrt{-64y^8z^6}$

49) $\sqrt[3]{-27y^{15}b^9}$

50) $\sqrt[4]{-16x^{16}y^8}$

51) $\sqrt{400x^{16}y^6}$

52) $\sqrt[3]{8c^3d^{12}}$

53) $\sqrt[3]{64(x+y)^6}$

54) $\sqrt[5]{-(y-z)^{15}}$

4	Simplify radical expressions	Exercises (47-54)	P 322

Simplify: 45) $\sqrt[3]{16\,y^4z^{12}}$

46) $\sqrt[3]{-54x^6z^{11}}$

74) $\sqrt[4]{162\,a^6b^{13}c}$

48) $\sqrt[4]{48a^9b^3c^{16}}$

49) $\sqrt[4]{\frac{12x^3y^2}{5a^{2b}}}$

50) $\frac{\sqrt[4]{36xy^2}}{\sqrt[3]{10xz}}$

51) $\frac{x+1}{\sqrt{x}-1}$

52) $\frac{x-2}{\sqrt{x^2-4}}$

53) $\frac{\sqrt{x}}{\sqrt{x^2-4}}$

5	Simplify radical expressions	Exercises (5-16)	P 331

5. $5\sqrt{2x} \cdot 3\sqrt{8x}$

6. $4\sqrt{5a^5} \cdot \sqrt{125a^3}$

7. $3\sqrt[3]{36xy} \cdot 2\sqrt[3]{6x^2y^2}$

8. $\sqrt[4]{3x^3y^2} \cdot \sqrt[4]{27xy^2}$

9. $5\sqrt{32} + \sqrt{27} + 2\sqrt{75}$

10. $4\sqrt{40} + 3\sqrt{28} - \sqrt{200}$

11. $(4 + 2\sqrt{5})(3\sqrt{3} + 4\sqrt{5})$

12. $(8\sqrt{3} - 2\sqrt{2})(8\sqrt{3} + 2\sqrt{2})$

13. $\dfrac{5}{\sqrt{2} + 3}$

14. $\dfrac{8}{\sqrt{6} - 5}$

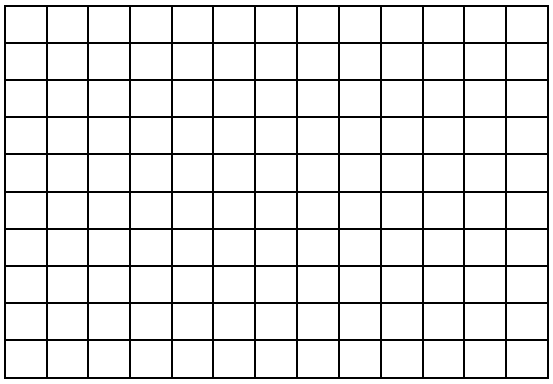
15. $\dfrac{4 + \sqrt{2}}{\sqrt{2} - 3}$

16. $\dfrac{6 - \sqrt{3}}{\sqrt{3} + 4}$

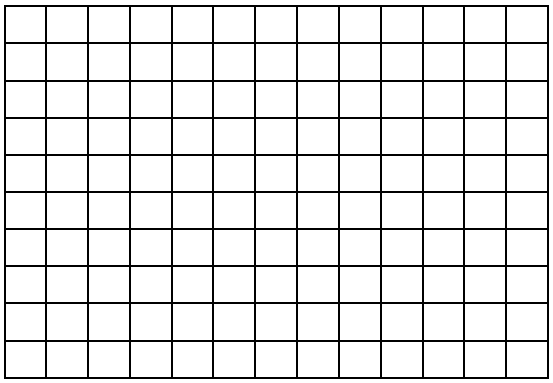
6	Graph logarithmic functions.	Exercises (8-11)	P368

Graph each function.

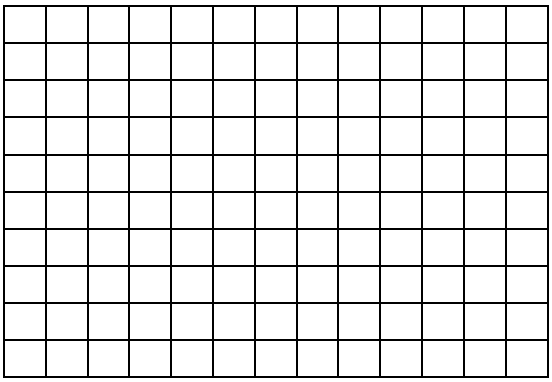
8) $f(x) = log_3 x$



10) $f(x) = 4\,log_4(x-6)$



11) $f(x) = 2\,log_{\frac{1}{10}} x - 5$



7	Evaluate logarithmic expressions	Exercises (25-36)	P368

Evaluate each expression.

25) $\log_{\frac{1}{3}} \frac{1}{9}$

27) $\log_6 216$

36) $\log_{\frac{1}{6}} \frac{1}{216}$

30) $\log_{32} 2$

8	Simplify and evaluate expressions using the properties of logarithms	Exercises (51-58)	P385

State whether each equation is true or false.

51) $\log_8(x-3) = \log_8 x - \log_8 3$

52) $\log_5 22x = \log_5 22 + \log_5 x$

53) $\log_{10} 19k = 19 \log_{10} k$

54) $\log_8 p^4 = (\log_8 p)^4$

55) $\log_9 \frac{x^2y^3}{z^4} = 2 \log_9 x + 3 \log_9 x - 4 \log_9 z$

9	Evaluate expressions involving the natural base and natural logarithm	Exercises (20-27)	P401

Write an equivalent exponential or logarithmic function.

20) $e^{-x} = 8$

21) $e^{-5x} = 0.1$

22) $\ln 0.25 = x$

23) $\ln 5.4 = x$

24) $e^{x-3} = 2$

25) $\ln(x+4) = 36$

26) $e^{-2} = x^6$

27) $lne^x = 7$

10	Evaluate expressions involving the natural base and natural logarithm	Exercises (28-33)	P401

Write each as a single logarithm.

28) ln 125 - 2 ln 5

29) 3 ln 10 + 2 ln 100

30) 4 $ln\frac{1}{3}$ – 6 ln $\frac{1}{9}$

31) 7$ln\frac{1}{2}$ + 5ln 2

33) 3 ln x^2 +4 ln 3

11	Add and subtract rational expressions	Exercises (5-12)	P437

Simplify and Expression

5. $\frac{12y}{5x} + \frac{5x}{4y^3}$

6. $\frac{5}{6ab} + \frac{3b^2}{14a^3}$

7. $\frac{7b}{12a} - \frac{1}{18ab^3}$

8. $\frac{y^2}{8c^2d^2} - \frac{3x}{14c^4d}$

9. $\frac{4x}{x^2+9x+18}+\frac{5}{x+6}$

11. $\frac{4}{3x+6}-\frac{x+1}{x^2-4}$

12. $\frac{3a+2}{a^2-16}-\frac{7}{6a+24}$

12	rmine properties of reciprocal functions	Example 1	P441

Determine the value of x for which $f(x)=\frac{3}{2x+5}$ is not defined.

13	Relate geometric sequences to exponential functions	14-17 and 39-44	P485-486

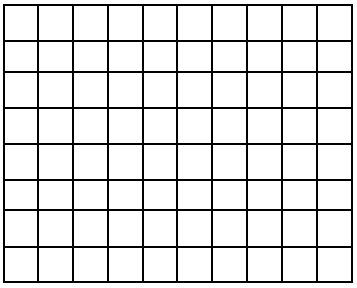
Find the next three terms of each geometric sequence. Then graph the sequence.

14) 8, 12, 18, 27, …

15) 8, 16, 32, 64, …

Find the next three terms of the sequence. Then graph the sequence.

39) 0.125, -0.5, 2, …



40) 18, 12, 8, …

41) 64, 48, 36, …

42) 81, 108, 144, …

43) $\frac{1}{3}$, 1, 3, 9...

44) 1, 0.1, 0.01, 0.001, …

14	Find the nth term and arithmetic means for arithmetic sequence	Exercise (14-19)	P 492

Find the indicated term of each arithmetic sequence.

14) $a_1 = -18$, d = 12, n = 16

15) $a_1 = -12$, n = 66, d = 4

16) $a_1 = 9$, n = 24, d = -6

18) a_{10} for -1, 1, 3, …

15	Find the nth term and geometric means for geometric sequences	Exercises (2-7)	P 499

Write an equation for the nth term of each geometric sequence.

2) 2, 4, 8, …

3) 18, 6, 2, …

4) -4, 16, -64, …

5) a_2 = 4, r= 3

6) $a_6 = \frac{1}{8}, \quad r = \frac{3}{4}$

16	Determine whether two functions or relations are inverses	Exercises (27-38)	P 308

Determine whether each pair of functions are inverse functions. Write yes or no.

27) $f(x) = 2x + 3$, g(x) = $2x - 3$

28) $f(x) = 4x + 6$, g(x)= $\frac{x-6}{4}$

35) $f(x) = x^2 - 9$ g(x) = $x + 3$

38) $f(x) = 2\sqrt{x-5}$ g(x) = $\frac{1}{4}x^2 - 5$.

17	Solve equations containing radicals	Exercises (23-34)	P 345

23) $\sqrt{2x+5} - 4 = 3$

24) $6 + \sqrt{3x+1} = 11$

26) $\sqrt{x-3} = \sqrt{x+4}$ -1

32) $\sqrt{7a-2}$ = $\sqrt{a+3}$

34) $\sqrt{b-6}$ + $\sqrt{b}$ = 3

18	Solve logarithmic equations	Exercises (44-49)	P 385

Solve each equation. Check your solutions.

44) log 10z + log 10 (z + 9) = 1

45) $\log_3(a^2 + 3) + \log_3 3 = 3$

47) $\log_4(2y + 3) - \log_4(y - 2) = 1$

49) $\log_7 64 - \log_7 \frac{8}{3} + \log_7 2 = \log_7 4p$

19	Use logarithms to solve problems involving exponential growth and	Example	P 407

In 2007, the population of the state of Georgia was 9.36 million people. In 2000, it was 8.18 million.

a. Determine the value of k, Georgia's relative rate of growth.

b. When will Georgia's population reach 12 million people?

25) $\frac{3ac^3f^3}{8a^2bcf^4} \bullet \frac{12ab^2c}{18ab^3c^2f}$

26) $\frac{14xy^2z^3}{21w^4x^2yz} \cdot \frac{7wxyz}{12w^2y^3z}$

27) $\frac{64a^2b^5}{35b^2c^3f^4} \div \frac{12a^4b^3c}{70\ abcf^2}$

29) $\frac{y^2+8y+15}{y-6} \bullet \frac{y^2-9y+18}{y^2-9}$

32) $\frac{c^2-6c-16}{c^2-d^2} \div \frac{c^2-8c}{c+d}$

21	Find the sum of the geometric series	Example 4 + exercise (41- 46)	P 498 +p 500

Mohammed sees a new band at a concert. He e-mails a link for the band's Web site to five of his friends. They each forward the link to five of their friends. The link is forwarded again following the same pattern.

a. How many people will receive the link on the eighth round und of e-mails?

b. If the pattern continues, what is the total number of e-mails sent in the eight rounds?

41) A certain water filtration system can remove 70% of the contaminants each time a sample of water is passed through it. If the same water is passed through the system four times, what percent of the original contaminants will be removed from the water sample?

Find the sum of each geometric series.

42) $a_1 = 36 \quad r = \frac{1}{3} \quad n = 8$

43) $a_1 = 16 \quad r = \frac{1}{2} \quad n = 9$

44) $a_1 = 240 \quad r = \frac{3}{4} \quad n = 7$

45) $a_1 = 360 \quad r = \frac{4}{3}$ **n= 8**