

امتحان الفصل الدراسي الأول

End of Term1 Exam



18
2019
العام الدراسي
Academic Year

إذا سألتك أحدهم
ماذا تريد أن تكون في المستقبل؟
فقل له أريد أن أكون

			Student No / الطالب رقم
			Student Name / الطالب اسم
			School Name / المدرسة اسم
	Class / الشعبة	General 10	Grade & Stream / الصف والمسار
Mathematics			Subject / المادة

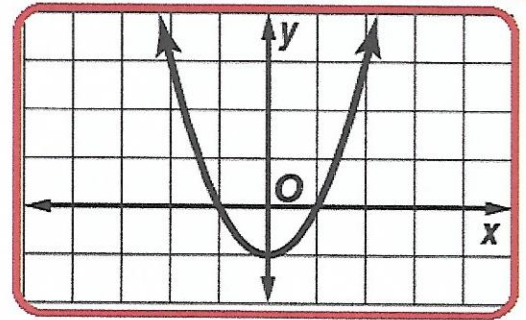
This table is to be filled by markers

يملأ هذا الجدول بدقة تامة من قبل لجنة التقدير.

رقم السؤال Question No.	الدرجة Mark		اسم المقيّد 1 Marker Name 1	اسم المقيّد 2 Marker Name 2	اسم المراجع Reviser Name
	رقماً In Figures	كتابةً In Words			
Part I					
Part II					
الدرجة المستحقة Allotted Mark					

Part I

45

Circle the letter corresponding to the correct answer.**1) Which equation corresponds to the graph shown?**

a) $y = x^2 + 1$

b) $y = x^2 - 1$

c) $y = -x^2 - 1$

d) $y = x^2$

2) Find the value of c that makes $x^2 - 6x + c$ a perfect square trinomial.

a) 3

b) -9

c) 6

d) 9

3) Which equation is equivalent to $x^2 + 2x - 3 = 0$?

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

b) $(x + 1)^2 = 4$

c) $(x - 1)^2 = 2$

d) $(x - 1)^2 = 4$



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4) State the value of the discriminant for $y = x^2 - 8x + 10$.

a) 4.9

b) 24

c) 104

d) 10.2

5) Solve $x^2 - 10x = -21$.

a) $x = -3, 10$

b) $x = -7, 4$

c) $x = 3$

d) $x = 3, 7$

6) Solve $2^{3x+10} = 128$.

a) $x = 3$

b) $x = 2$

c) $x = 1$

d) $x = -1$

7) Which is the equation for the n^{th} term of the geometric sequence

$-4, 8, -16, \dots$ where $n \geq 1$?

a) $a_n = -4(2)^{n-1}$

b) $a_n = -4(-2)^{n-1}$

c) $a_n = -2(-4)^{n-1}$

d) $a_n = -2(4)^n$

8) Which equation represents exponential growth?

a) $y = 3(0.7)^x$

b) $y = 3x$

c) $y = 0.5x^3$

d) $y = 3(1.04)^x$



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9) Find the range for the function $g(x) = \sqrt{x} - 4$.

a) $\{x / x \geq 0\}$

b) $\{y / y \geq 0\}$

c) $\{y / y \geq -4\}$

d) $\{x / x \geq -4\}$

10) Solve $\sqrt{7-2x} = \sqrt{9-x}$.

a) $\frac{1}{2}$

b) $-\frac{1}{2}$

c) 2

d) -2

11) Which is the horizontal asymptote for the function $y = \frac{2}{x+2} + 1$?

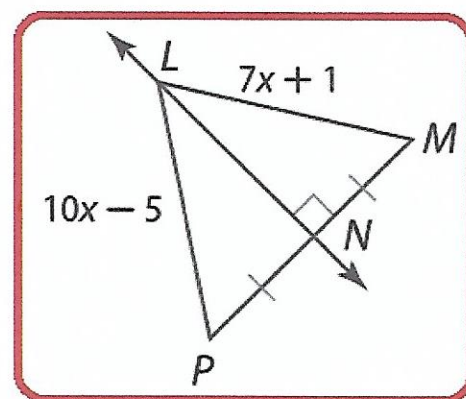
a) $y = -1$

b) $y = 1$

c) $x = -2$

d) $x = 2$

12) Find the value of x .



a) $x = 15$

b) $x = 3$

c) $x = 2$

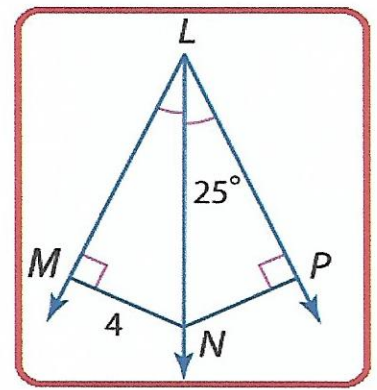
d) $x = 4$



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13) Find the measure of $\angle MNP$.



a) 65°

b) 130°

c) 90°

d) 50°

14) If $n > m$, which of the following must be true?

a) $-m > -n$

b) $3m > n$

c) $m^2 < n^2$

d) $-n > -m$

15) Ahmed purchased a car for AED 60,000. The car depreciated at an annual rate of 15%. Which of the following equations models the value of Ahmed's car after 6 years?

a) $y = 60000(1.15)^6$

b) $y = 60000(0.15)^6$

c) $y = 60000(0.85)^6$

d) $y = 15(60000)^6$



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Show all the details when answering these questions.

- 16) The roller coaster launches riders straight up and returns straight down.

The equation $h = -16t^2 + 128t$ models the height h , in feet, of the riders from their starting position after t seconds. How long is it until the riders return to the bottom?

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- 17) In an AC circuit, the voltage V , current C , and impedance I are related by the formula $V = C \cdot I$. Find the voltage in a circuit with current $3 + 6j$ amps and impedance $5 - j$ ohms.

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- 18) Solve the inequality algebraically $x^2 - 4x \leq 21$.

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- 19) Determine which kind of model best describes the data, then write an equation for the function that models the data.

x	-1	0	1	2	3
y	3	6	12	24	48

- 20) Find terms a_2 and a_3 of the sequence in which

$$a_1 = -2 \text{ and } a_n = (-3)a_{n-1} + 4, \text{ if } n \geq 2.$$

- 21) Assume that y varies inversely as x . If $y=12$ when $x=3$, find x when $y=6$.



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22) Solve $\frac{x}{x+1} - \frac{6}{(x-5)(x+1)} = 2$. State any extraneous solutions. **BONUS**

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- 23) Hamdan and his family are walking around a lake as shown in the figure.
Order the angles of the triangle formed by their path from largest to smallest.

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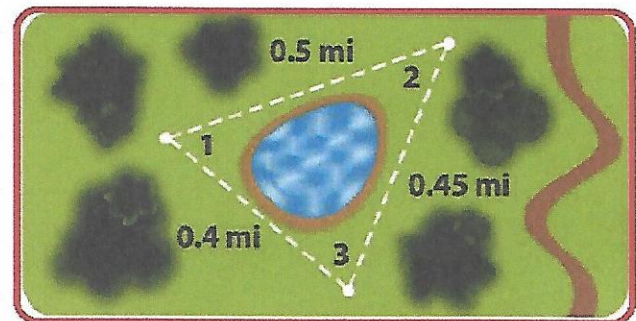
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- 24) Find the length of AB .

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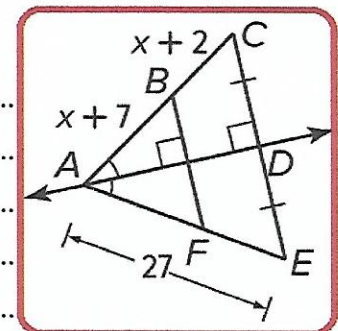
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End of Exam
Good Luck



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