

تم تحميل هذا الملف من موقع المناهج الإماراتية



الملف امتحان نهاية الفصل الأول للعام 2018-2019

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روابط مواقع التواصل الاجتماعي بحسب الصف الحادي عشر العام



روابط مواد الصف الحادي عشر العام على تلغرام

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

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End of Term 1 Exam  
Academic Year 2018/2019

Part I

45

Circle the letter corresponding to the correct answer.

1) Select the algebraic expression that represents the verbal expression below.

"2 more than 4 times the cube of a number  $x$ "



a)  $2x^3 + 4$

b)  $3x^3 + 4$

c)  $4x^3 + 2$

d)  $4(x + 2)^3$

2) Solve  $|2x - 3| \leq 7$ .

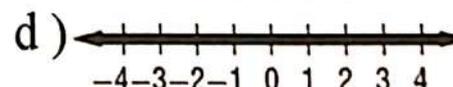
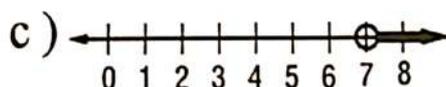
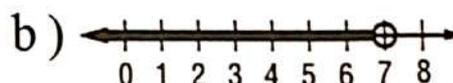
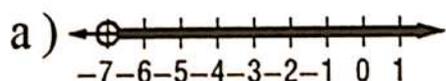
a)  $x \leq 5$

b)  $-2 \leq x \leq 5$

c)  $-5 \leq x \leq 5$

d) all real numbers

3) Identify the graph of the solution set of the inequality  $-2.3 < 4 + 0.9y$ .



4) Which function is a linear function?

a)  $xy = 60$

b)  $y = x^2 - 3x + 1$

c)  $3x - 2y - 5 = 0$

d)  $y^2 + 1 = x$



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5) Write an equation of the line through (1, 2) with a slope of -4.

a)  $y = -2x + 4$

b)  $y = -4x + 6$

c)  $y = -4x + 2$

d)  $y = -4x + 9$

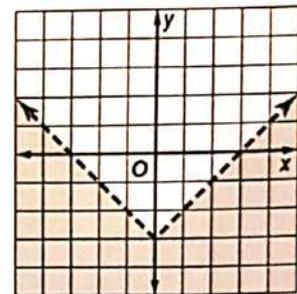
6) Which inequality is graphed at the right?

a)  $y \geq |x| - 3$

b)  $y \leq |x| - 3$

c)  $y > |x| - 3$

d)  $y < |x| - 3$



7) Let  $A = \begin{bmatrix} 3 & 5 & -8 \\ 12 & -11 & 9 \end{bmatrix}$ ,  $B = \begin{bmatrix} 1 & 7 & -5 \\ -10 & 0 & 2 \end{bmatrix}$ . Find  $3B + 2A$ .

a)  $\begin{bmatrix} 9 & 12 & -13 \\ 2 & -11 & 11 \end{bmatrix}$

b)  $\begin{bmatrix} 3 & 10 & -2 \\ -7 & 0 & 5 \end{bmatrix}$

c)  $\begin{bmatrix} 11 & 29 & -34 \\ -11 & -33 & 31 \end{bmatrix}$

d)  $\begin{bmatrix} 9 & 31 & -31 \\ -6 & -22 & 24 \end{bmatrix}$

8) What are the dimensions of the product of  $A_{3 \times 6} \times B_{3 \times 6}$ ?

a)  $3 \times 3$

b)  $3 \times 6$

c)  $6 \times 6$

d) undefined



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9) Which system of equations is graphed?

a)  $2x + y = 2$

$-3x - y = 4$

c)  $2x + y = -2$

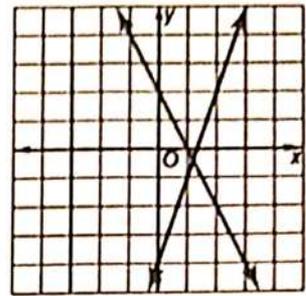
$3x - y = 4$

b)  $2x + y = 2$

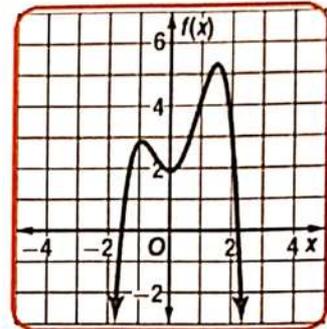
$3x - y = 4$

d)  $2x + y = -2$

$-3x - y = 4$



10) Use the graph shown. Determine the values of  $x$  between which a real zero is located.



a) between  $-2$  and  $-1$     b) between  $0$  and  $1$

c) between  $-1$  and  $0$     d) between  $-3$  and  $-2$

11) Solve  $a^4 - 4 = 0$ .

a)  $a = \pm \sqrt{2}, \pm 1$

b)  $a = \pm \sqrt{2}, \pm i\sqrt{2}$

c)  $a = \pm 2i, \pm \sqrt{2}$

d)  $a = -\sqrt{2}, 2, 2i, i\sqrt{2}$

12) Simplify  $3(4x - 2y) - 2(3x + y)$ .

a)  $18x - 8y$

b)  $6x + 4y$

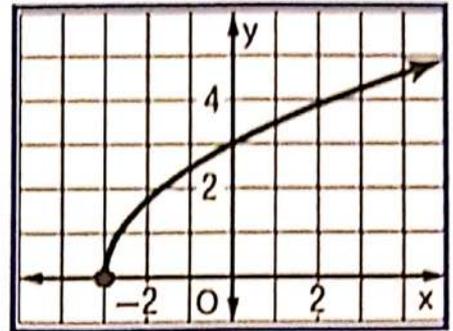
c)  $8x - 4y$

d)  $6x - 8y$



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13) State the domain and range of the function graphed below.



a)  $D = \{x \mid x > -3\}$ ,  $R = \{y \mid y > 0\}$

b)  $D = \{x \mid x > -3\}$ ,  $R = \{y \mid y < 0\}$

c)  $D = \{x \mid x \geq -3\}$ ,  $R = \{y \mid y \geq 0\}$

d)  $D = \{x \mid x \geq -3\}$ ,  $R = \{y \mid y > 0\}$

14) Solve  $(3m + 1)^{\frac{1}{4}} = 2$ .

a)  $m = 5$

b)  $m = 1$

c)  $m = 3$

d)  $m = 16$

15) Which value of  $c$  makes  $\sqrt{56 - c}$  a positive integer?

a)  $-10$

b)  $66$

c)  $-8$

d)  $54$



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Show all the details when answering these questions.

16) Find the value of  $k$  so that  $x - 2$  divides  $x^3 - kx + 4$  with no remainder.

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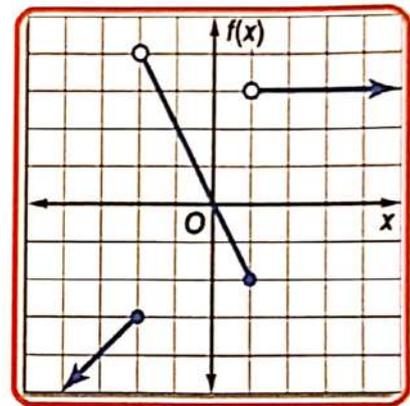
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17) Write the piecewise-defined function shown in the graph.

**BONUS**



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18) Find the product, if possible.  $\begin{bmatrix} -1 & 0 \\ 5 & 2 \end{bmatrix} \times \begin{bmatrix} 6 & -3 \\ 7 & -2 \end{bmatrix}$

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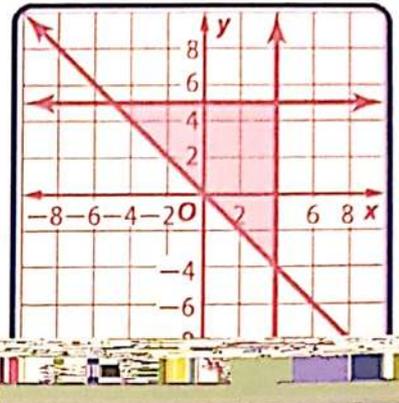
19) The system of inequalities

$$y \leq 5$$

$$x \leq 4$$

$$y \geq x$$

is graphed on the side.



a) What are the coordinates of the vertices of the feasible region?

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b) Find the maximum and minimum values of the function  $f(x, y) = 5x - 2y$  for this region.

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20) Find  $(4a^4 + 2a^2 - 4a - 80) \div (a + 2)$ .

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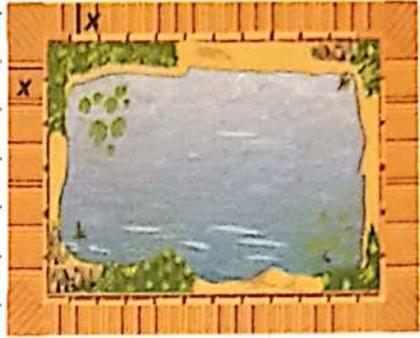


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21) A boardwalk that is  $x$  meters wide is built around a rectangular pond. The pond is 30 m wide and 40 m long. The combined area of the pond and the boardwalk is  $2000 \text{ m}^2$ . What is the width of the boardwalk?

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22) Determine whether the pair of functions are inverse functions. Explain your reasoning.

$$f(x) = \frac{x+10}{8} \quad , \quad g(x) = 8x - 10$$

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23) Simplify the expression.

$$\frac{h^{\frac{1}{2}} + 1}{h^{\frac{1}{2}} - 1}$$

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End of Exam  
 Good Luck



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