

اختبار الصف الثالث الاعدادى

Question 1: Choose the correct answer:

- 1 The function $f: f(X) = X(X - 2X^2)$ is a polynomial of the degree.
- first
 - second
 - third
 - fourth
- 2 If $(-1, 0) \in$ the set of the function f where $f(X) = mX + 2$, then $m =$
- 0
 - -1
 - 2
 - -2
- 3 The set of images of the elements of the domain of the function is called
- the rule
 - the domain
 - the range
 - the codomain

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4 If $f(2X) = 4$, then $f(-X) = \dots\dots\dots$

- -2
- -4
- 4
- 2

5 The function $f: f(X) = X^2 (X - 3)^2$ is a polynomial of the degree.

- first
- second
- third
- fourth

6 If $X - Y = \{7\}$, $Y - X = \{2, 4\}$, $X \cap Y = \{6\}$, then $(X \times Y) \cap (Y \times X) = \dots\dots\dots$

- $\{(6, 6)\}$
- $\{(7, 2), (7, 4)\}$
- $\{(2, 7), (4, 7)\}$
- $\{(7, 6)\}$

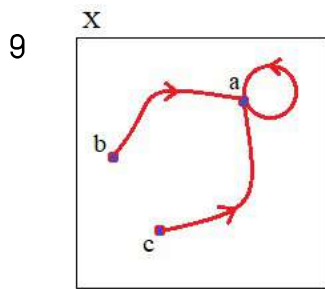
7 If $f(X) = 5$, then $\frac{f(5)}{f(10)} = \dots\dots\dots$

- 5
- $\frac{1}{2}$
- 1
- 10

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8 If $(a, a) \in$ the set of the function f where $f(X) = 2X + 3$, then $a = \dots\dots\dots$

- 2
- 3
- -3
- -2



The opposite diagram represents a function on X , its range is

- $\{a\}$
- $\{a, b, c\}$
- $\{a, b\}$
- $\{b, c\}$

10 If $X = \{2\}$, $Y = \{3\}$, then $X \times Y = \dots\dots\dots$

- 6
- $\{6\}$
- $(2, 3)$
- $\{(2, 3)\}$

Degree (/ 10)

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Question 2 : Complete the following sentences :

- 1 Complete the following:
If $(X - 1, 11) = (8, y + 3)$, then $\sqrt{x + 2y} = \dots\dots\dots$
- 2 Complete the following:
The straight line which represents the function $f: R \rightarrow R$; where $f(X) = 5X - a$ intersects the y-axis at the point $(b, 2)$, then $a = \dots\dots\dots$ and $b = \dots\dots\dots$.
- 3 Complete the following:
The straight line which represents the function $f: R \rightarrow R$; where $f(X) = aX + b$ intersects the y-axis at the point $(0, 3)$ if $f(2) = 7$, then $a = \dots\dots\dots$ and $b = \dots\dots\dots$.
- 4 Choose the correct answer:
The point of the vertex of the curve of the function $f: f(X) = 2X^2 - 4X + 5$ is $(\dots\dots\dots, \dots\dots\dots)$.
- 5 Complete the following:
The linear function given by the rule $y = 3x + 6$ is represented graphically by a straight line intersecting the x-axis at the point $(\dots\dots\dots, \dots\dots\dots)$.
- 6 Complete the following:
 $\{2, 3\} \times \{4, 5\} = \{(\dots\dots\dots, \dots\dots\dots), (\dots\dots\dots, \dots\dots\dots), (\dots\dots\dots, \dots\dots\dots), (\dots\dots\dots, \dots\dots\dots)\}$.

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7 Choose the correct answer:

If the curve of the quadratic function which is defined on \mathbb{R} has a point of maximum value then this curve is opened

.

8 Complete the following:

The linear function given by the rule $y = 2X - 1$ is represented graphically by a straight line intersecting the y-axis at the point (..... ,)

.

9 Complete the following:

If $X^2 = \{(1, 1), (1, 2), (2, 1), (2, 2)\}$, then $X = \{.....,\}$.

10 Complete the following:

If $X \times Y = \{(2, 6), (2, 9), (3, 6), (3, 9), (5, 6), (5, 9)\}$, then $X = \{.....,,\}$, $Y = \{.....,\}$

.

Degree (/ 10)



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Question 3 : Answer the following questions :

- 1 Answer the following:
If $X = \{1, 3, 4, 5\}$, $Y = \{1, 2, 3, 4, 5, 6\}$ and R is a relation from X to Y , where " $a R b$ " means " $a + b = 7$ " for each of $a \in X$, $b \in Y$
Write R and represent it by an arrow diagram and also by a Cartesian diagram.
- 2 Answer the following:
If $X = \{1, 3, 5\}$, R is a function on X , $R = \{(a, 3), (b, 1), (1, 5)\}$, then find the numerical value of the expression: $a + b$
- 3 Answer the following:
If $X = \{3, 4, 8\}$ Find X^2 and represent it: [1] By an arrow diagram.
[2] By Cartesian diagram.

Degree (/ 3)



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الإجابات النموذجية

Question 1 answers :

- 1 third
- 2 2
- 3 the range
- 4 4
- 5 fourth
- 6 $\{(6, 6)\}$
- 7 1
- 8 -3
- 9 $\{a\}$
- 10 $\{(2, 3)\}$

Question 2 answers :

- 1 5
- 2 -2 - 0

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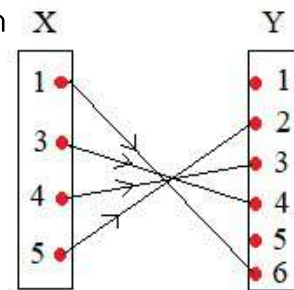


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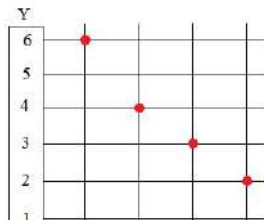
- 3 $2 - 3$
- 4 $1 - 3$
- 5 $-2 - 0$
- 6 $2 - 4 - 2 - 5 - 3 - 4 - 3 - 5$
- 7 upside down
- 8 $0 - -1$
- 9 $1 - 2$
- 10 $2 - 3 - 5 - 6 - 9$

Question 3 answers :

1 $R = \{(1, 6), (3, 4), (4, 3), (5, 2)\}$ Arrow diagram



Cartesian diagram



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