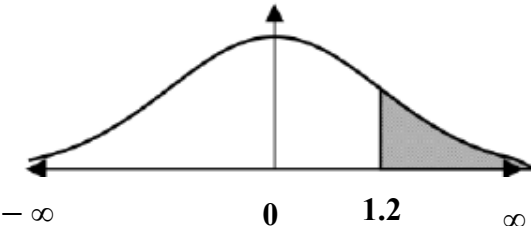
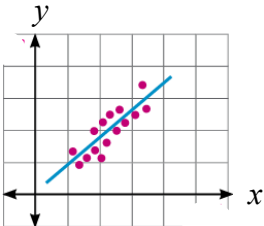


أولاً : الأسئلة الموضوعية (الاختيار من متعدد) "كل سؤال درجة واحدة"

(1)	If Z is a standard normal variable, the opposite figure represents the standard normal distribution of it, then, which of the following probabilities represents the shaded part?																														
(a)	P (Z ≤ 1.2)	(b)	P (Z ≥ 1.2)	(c)	P (0 ≤ Z ≤ 1.2)	(d)	P (-1.2 ≤ Z ≤ 1.2)																								
(2)	If A and B are two events of the sample space of a random experiment, such that P(A) = $\frac{1}{2}$, P(B') = $\frac{1}{4}$, and P (A ∩ B) = $\frac{3}{8}$,then the probability of occurrence of only one of the two events =																														
(a)	$\frac{1}{2}$	(b)	$\frac{7}{8}$	(c)	$\frac{3}{8}$	(d)	$\frac{1}{4}$																								
(3)	If the regression line equation is $\hat{y} - x = 4$, then, the correlation between x and y is																														
(a)	Direct	(b)	Nihilistic	(c)	Inverse weak	(d)	Inverse moderate																								
(4)	From the opposite scatter diagram: The correlation between x and y is																														
(a)	Direct strong	(b)	Inverse weak	(c)	Not linear	(d)	Perfect inverse																								
(5)	From the opposite diagram: each the following represents one of the given data except				<table><tr><td>Stem</td><td colspan="3">Leaves</td></tr><tr><td>1</td><td colspan="3">9</td></tr><tr><td>2</td><td>2</td><td colspan="2">8</td></tr><tr><td>3</td><td>1</td><td>4</td><td>4 9</td></tr><tr><td>4</td><td>5</td><td colspan="2">8</td></tr><tr><td>5</td><td>1</td><td colspan="2">2</td></tr></table> Key: 2 8 = 28			Stem	Leaves			1	9			2	2	8		3	1	4	4 9	4	5	8		5	1	2	
Stem	Leaves																														
1	9																														
2	2	8																													
3	1	4	4 9																												
4	5	8																													
5	1	2																													
(a)	22	(b)	31	(c)	45	(d)	50																								

(6)	If the upper limit of a confidence interval of a sample mean equals 7.25 with a confidence level of 95%, and the estimation error equal to 1.25, then the arithmetic mean equals						
(a)	5	(b)	6	(c)	7	(d)	8.5

(7)	If Z is a standard normal random variable and $P(k \leq Z \leq 1.5) = 0.3$ then $k = \dots\dots\dots$						
(a)	0.18	(b)	0.34	(c)	0.66	(d)	0.17

(8)	If A and B are two events of the sample space of a random experiment, such that $P(A) = 0.4$, $P(B') = 0.6$ and $P(A \cap B) = 0.12$ then, $P(A / B) = \dots\dots\dots$							
(a)	0.3	(b)	0.6	(c)	0.4	(d)	0.2	

(9)	The opposite diagram: represents the marks of some students in one of the subjects using the Stem and leaves method, then the number of students whose marks between 20 and 29 marks =.....				<table><tr><th>Stem</th><th>Leaves</th></tr><tr><td>1</td><td>2 4 6 8</td></tr><tr><td>2</td><td>0 2 5 9</td></tr><tr><td>3</td><td>1 4 7</td></tr></table>		Stem	Leaves	1	2 4 6 8	2	0 2 5 9	3	1 4 7
					Stem	Leaves								
					1	2 4 6 8								
					2	0 2 5 9								
					3	1 4 7								
Key: 3 3=33														
(a)	4	(b)	3	(c)	2	(d)	5							

(10)	If X is a normal random variable whose mean $\mu = 4$ and variance = 25, then $P(X \geq 14) = \dots\dots\dots$						
(a)	0.4772	(b)	0.0228	(c)	0.9935	(d)	0.2386

ثانياً : الأسئلة الموضوعية (الاختيار من متعدد) "كل سؤال درجتان"

(11)	If X is a continuous random variable, its density function is: $f(x) = \begin{cases} \frac{1}{4} x - k, & 1 \leq x \leq 3 \\ 0, & otherwise \end{cases}$ then k =						
(a)	3	(b)	$\frac{3}{4}$	(c)	$\frac{3}{8}$	(d)	$\frac{1}{4}$

(12)	The following frequency table represents the number of working hours of some workers in a factory:							
	Number of hours	10-	20-	30-	40-	50-	60-	Total
	Frequency	10	17	20	32	17	4	100

Then the third quartile =

(a)	50.25	(b)	28.82	(c)	40.94	(d)	48.75
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(13)	If the lower limit of a confidence interval of a sample mean equals 23.04 with a confidence level of 95%, and the sample size equals 625, and the arithmetic mean equals 25, then the standard deviation of the sample =							
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(a)	25	(b)	26	(c)	27	(d)	28
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(14)	In a study of the relation between two variables x, y if $\bar{x} = 8, \sum x = 80$, $\sum y = 100$, if the equation of line of regression of y on x is $\hat{y} = 2.8x + a$, then $a = \dots\dots\dots$							
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(a)	12.4	(b)	- 12.4	(c)	15.6	(d)	- 15.6
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(15)	A die is designed such that four of its faces carry the number 2 and two faces carry the number 4, if this die is thrown two consecutive times, where the random variable X represents the smaller number of the appearing numbers, Then $P(X = 2) = \dots\dots\dots$							
------	---	--	--	--	--	--	--	--

(a)	$\frac{1}{2}$	(b)	$\frac{1}{4}$	(c)	$\frac{3}{4}$	(d)	$\frac{1}{3}$
-----	---------------	-----	---------------	-----	---------------	-----	---------------

(16)	The semi-interquartile range of the following values														
	23	7	16	2	4	5	1	21	15	22	14	11	10	9	3
	=														

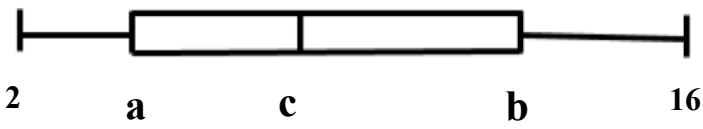
(a)	4	(b)	10	(c)	16	(d)	6
-----	---	-----	----	-----	----	-----	---

(17)	If the confidence interval of a sample mean is $]9.3, 10.7[$, then the arithmetic mean =			
(a)	8	(b)	9	(c) 10 (d) 1

(18)	If A and B are two events of the sample space of a random experiment, such that $P(A) = \frac{5}{9}$, $P(B) = \frac{2}{9}$ and $P(A \cap B) = \frac{1}{9}$ then, $P(B - A) = \dots\dots$			
(a)	$\frac{1}{3}$	(b)	$\frac{4}{9}$	(c) $\frac{2}{3}$ (d) $\frac{8}{9}$

(19)	When calculating the Spearman's correlation coefficient (r) between x and y, If $\sum D^2 = 19$, $n = 7$ then $r \approx \dots\dots\dots$			
(a)	0.94	(b)	- 0.94	(c) - 0.66 (d) 0.66

(20)	If the regression line equation of y on x is $\hat{y} = 0.3x + 4$, if the table value at $x=10$ is 7.2, then the error in the value of y equals			
(a)	0.3	(b)	0.1	(c) 0.2 (d) 0.6

(21)	from the opposite box plot: if the semi-interquartile range = 2 and $a + b = 20$ then $a = \dots\dots\dots$ 			
(a)	16	(b)	12	(c) 8 (d) 20

(22)	A bag contains 72 identical balls, some of them are white, some of them are red and the rest are green, if the probability of drawing a white ball = $\frac{1}{4}$, then the number of white balls =			
(a)	18	(b)	24	(c) 12 (d) 36

From the following table:

x	1	2	3	4
y	2	3	4	5

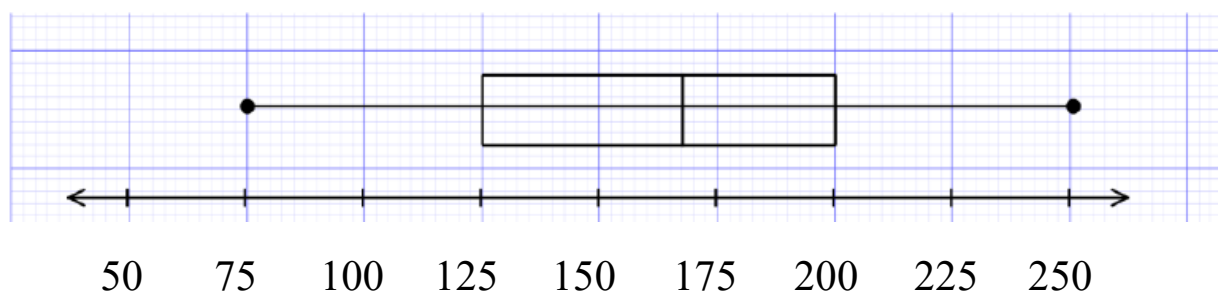
The Pearson's correlation coefficient between x and y =

- (a) 0.4 (b) 0.6 (c) 0.8 (d) 1

(24) If A and B are two independent events of a sample space of a random experiment, such that $P(A) = 0.6$ and $P(A \cup B) = 0.68$, then $P(A) = \dots\dots\dots$

- (a) 0.2 (b) 0.3 (c) 0.4 (d) 0.5

The following diagram represents the number of students in some of the departments using box plot method, then the number of students in at least three quarters of the departments =



- (a) 125 (b) 170 (c) 200 (d) 250

(26) If X is a discrete random variable whose variance = 9, the coefficient of variance = 75%, then the expectation =

- (a) 3 (b) 2 (c) 4 (d) 5

(27) If X is a discrete random variable such that: $\sum x_r \times f(x_r) = 5$
 $\sum x_r^2 \times f(x_r) = 29$, then the coefficient of variance = %

- (a) 15 (b) 20 (c) 16.5 (d) 40

(28)	If the heights of a group of students represents a normal distribution with mean 168 cm. and standard deviation 5 cm. if 122 students the height of each of them is less than 162 cm., then the total number of this group of students =											
(a)	1000	(b)	1020	(c)	1040	(d)	1060					
(29)	If the two points (4, 5) and (7,3) lie on the line of regression of y on x, and if the correlation between x and y is perfect, then the linear correlation coefficient =											
(a)	- 1	(b)	0	(c)	0.5	(d)	1					
(30)	If the order of the third quartile of a set of data is 18, then the order of the first quartile is											
(a)	23	(b)	12	(c)	6	(d)	24					
(31)	In the experiment of throwing a regular coin two consecutive times, the probability of appearing a head in the second time knowing that the first toss is a head equals											
(a)	$\frac{1}{4}$	(b)	$\frac{1}{3}$	(c)	$\frac{1}{8}$	(d)	$\frac{1}{2}$					
(32)	A spinner is divided into 5 equal sections numbered from 3 to 7, if the spinner is rotated five times, then the probability of appearing the number (4) two times of them equals											
(a)	$\frac{64}{625}$	(b)	$\frac{640}{3125}$	(c)	$\frac{256}{3125}$	(d)	$\frac{128}{625}$					
(33)	If X is a discrete random variable whose distribution <table><tr><td>x_r</td><td>1</td><td>2</td><td>3</td></tr><tr><td>$f(x_r)$</td><td>0.1</td><td>0.2</td><td>k</td></tr></table> Then the mean $\mu = \dots\dots\dots$				x_r	1	2	3	$f(x_r)$	0.1	0.2	k
x_r	1	2	3									
$f(x_r)$	0.1	0.2	k									
(a)	0.44	(b)	2.6	(c)	2.4	(d)	3.6					

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حقوق النشر محفوظة لوزارة التربية والتعليم والتعليم الفني 2026-2025

ثالثاً: الأسئلة المقالية " كل سؤال درجتان "

(34)	In a sport club, there are 120 members, 30 members of them playing football and 40 members of them playing basketball, if each member chose his sport randomly without taking under condition the other sport, then find the probability of members playing football and basketball together.
(35)	In shotting arrows game, if the probability of hitting the target in each trial is 0.35, then what is the probability of hitting the target for the first time after three trials at least?