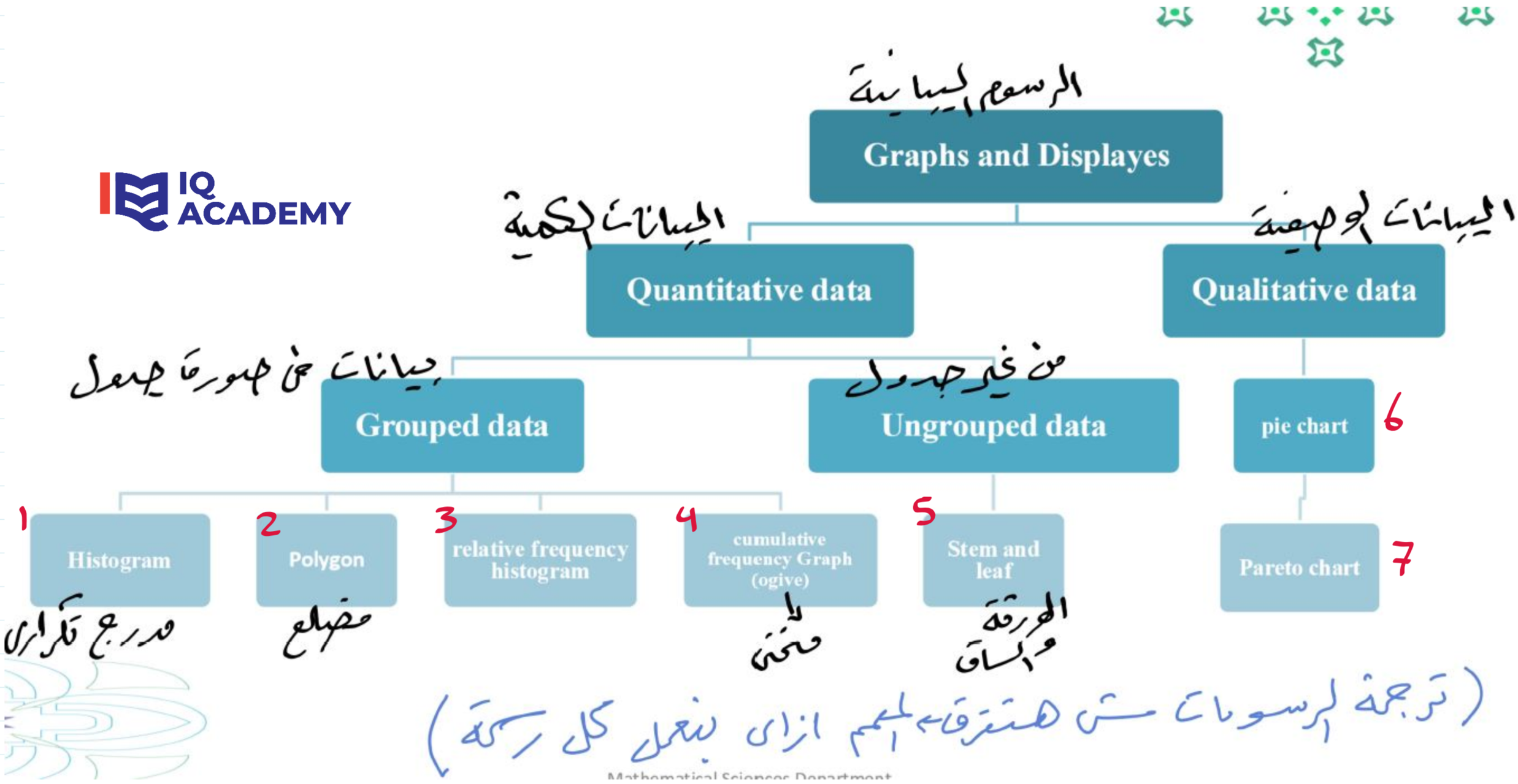


يعني كدا عندنا ⑦ رسومات هنشوف كل واحد بنعمله ازاي.

Example 1 pg. 39 Larson and Farber :

الآتية العينة توضح السعر

The following sample data set lists the prices (in dollars) of 30 portable global positioning system (GPS) navigators. Construct a frequency distribution that has seven classes.

$K = 7$

250	150	250	325	70	350	200	400	130	90
130	300	450	160	200	59	130	150	270	275
150	170	180	95	250	200	400	200	100	220

في السؤال ده هيقولي $K = 7$ يعني Grouped data أقدر أرسم ٤ رسومات على حسب السؤال عاوزاه.

① Frequency Histogram

② Polygon

③ Relative Frequency Histogram

④ ogive

الجدول Frequency distribution table

أول خطوة اعملها هي جدول

Construct Frequency distribution table

جدول تكراري

الخطوة الأولى

* $R = max - min$

$= 450 - 59 = 391$

* $K = 7$ (عدد)

* $W = \frac{R}{K} = \frac{391}{7} \simeq 55.85 = 56$

نأخذ الرقم الصحيح التالي

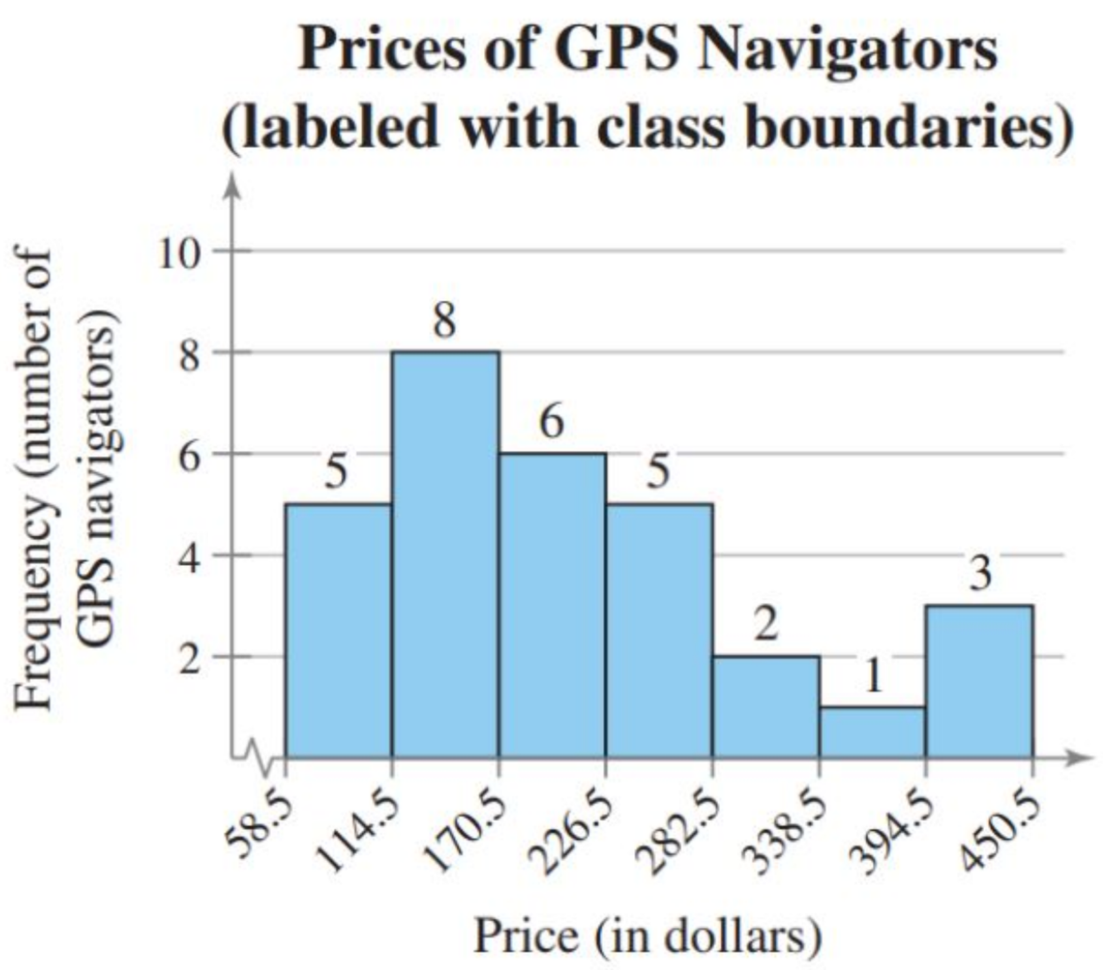
Lower limit	Upper limit	Class interval	lower boundary	upper boundary	Mid point	frequency	Cummulative Frequency	Relative frq.
59	114	59-114	58.5	114.5	86.5	5	5	0.167
115	170	115-170	114.5	170.5	142.5	8	13	0.267
171	226	171-226	170.5	226.5	198.5	6	19	0.200
227	282	227-282	226.5	282.5	254.5	5	24	0.167
283	338	283-338	282.5	338.5	310.5	2	26	0.067
339	394	339-394	338.5	394.5	366.5	1	27	0.033
395	450	395-450	394.5	450.5	422.5	3	30	0.100
					Total	30		1

الخطوة الثانية

على حسب هو طلب أي رسم ع :-

١

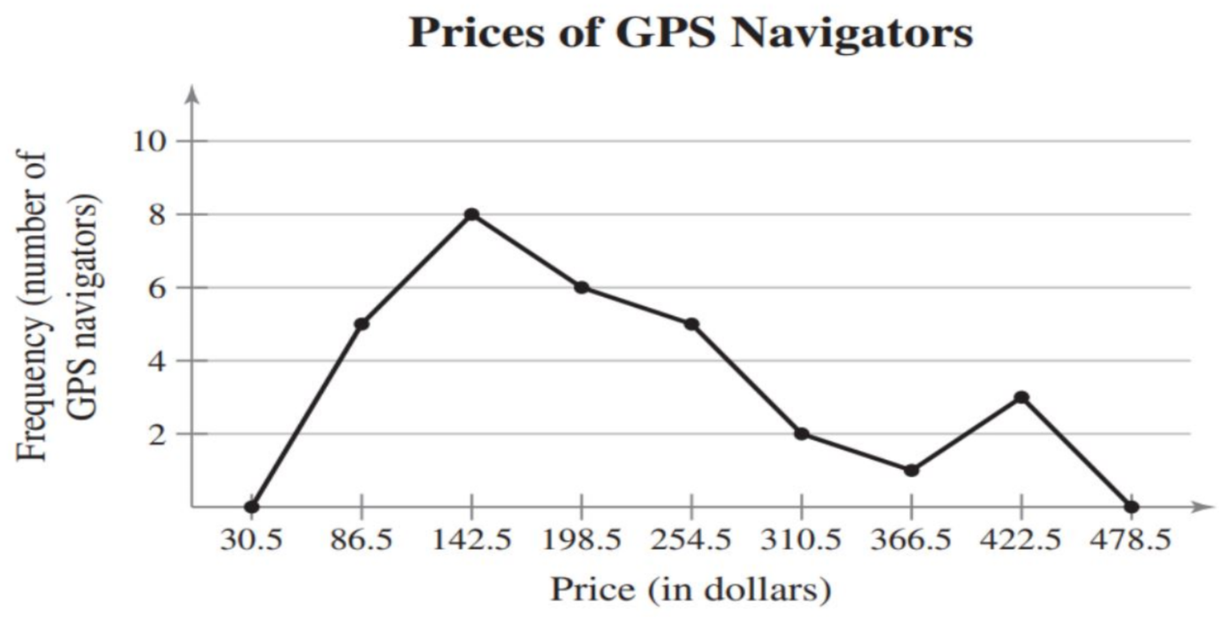
Frequency Histogram	
Class boundary	frequency
58.5-114.5	5
114.5-170.5	8
170.5-226.5	6
226.5-282.5	5
282.5-338.5	2
338.5-394.5	1
394.5-450.5	3



(2)

Polygon

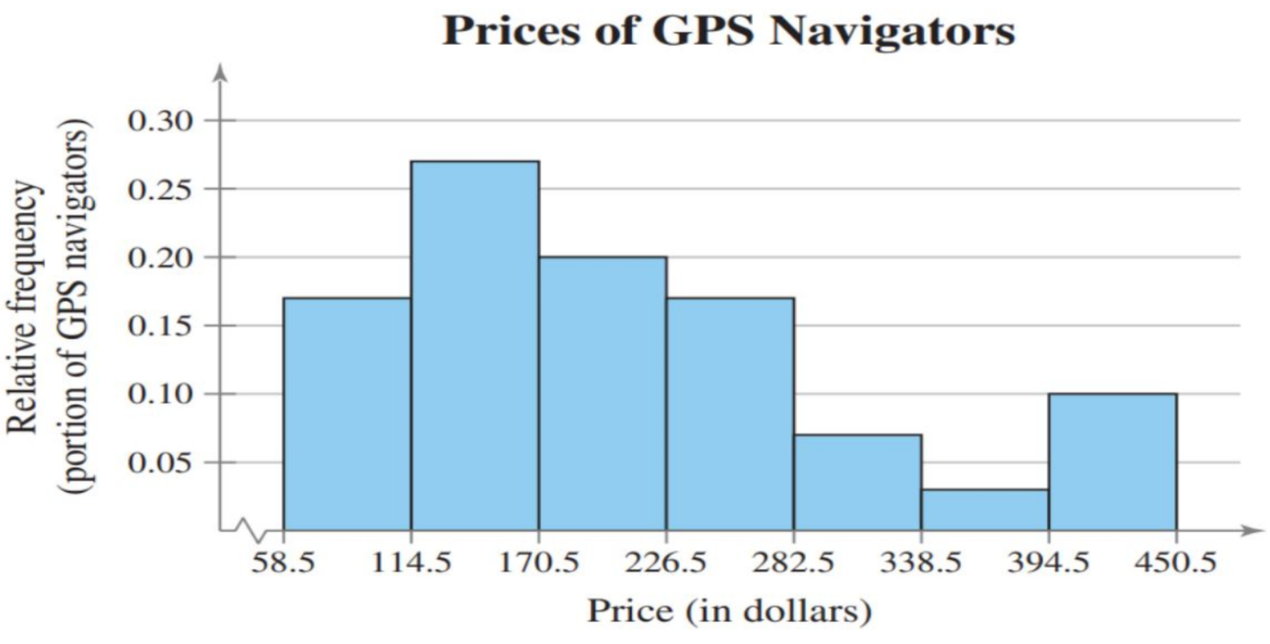
Mid point	frequency
30.5	0
86.5	5
142.5	8
198.5	6
254.5	5
310.5	2
366.5	1
422.5	3
478.5	0



(3)

Relative Frequency Histogram

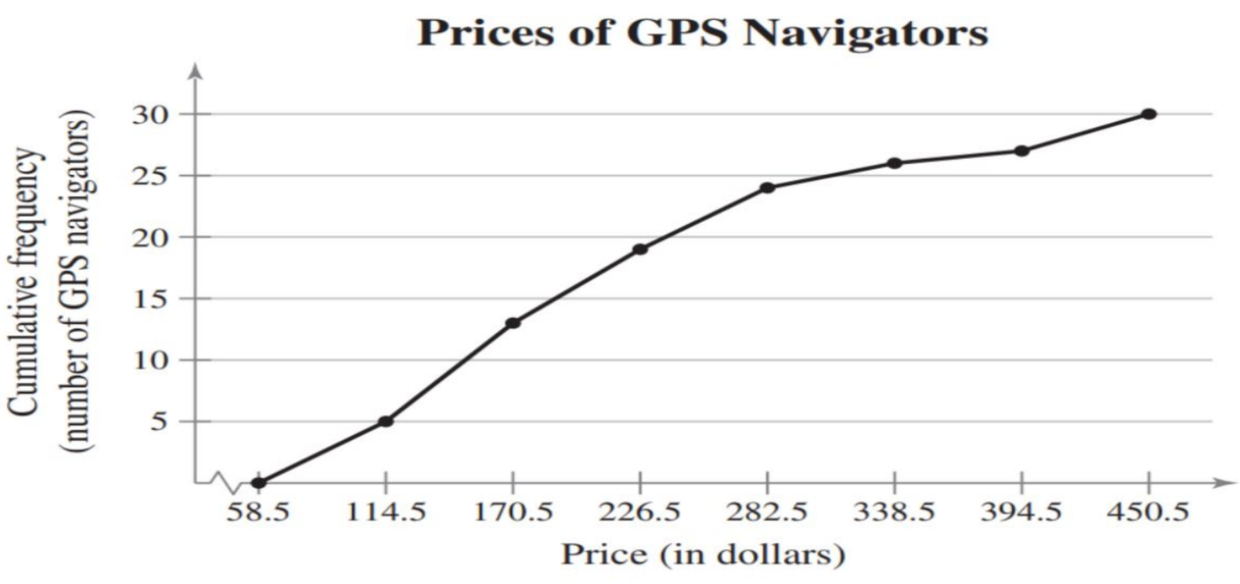
Class boundary	Relative frq.
58.5-114.5	0.167
114.5-170.5	0.267
170.5-226.5	0.200
226.5-282.5	0.167
282.5-338.5	0.067
338.5-394.5	0.033
394.5-450.5	0.1



(4)

Ogive

upper boundary	Cummulative Frequency
58.5	0
114.5	5
170.5	13
226.5	19
282.5	24
338.5	26
394.5	27
450.5	30



← كدا باقى الرسومات (5) ، (6) ، (7)

IQ ACADEMY

stem and leaf

نوع الخامس ١

يطلب منى السؤال

Example:

Use a stem-and-leaf plot to display the data.

The following data represent students' marks in Statistics course.

28	46	49	42	58	59	53
50	51	66	62	64	67	69
63	68	67	69	75	70	78
75	74	84	85	88	93	99

الحل

① أول خطوة ترتيب البيانات

غير رتبة

Unordered Stem-and-Leaf Plot

28	46	49	42	58	59	53
50	51	66	62	64	67	69
63	68	67	69	75	70	78
75	74	84	85	88	93	99

Stem | leaf

Stem	leaf
2	8
3	
4	6 9 2
5	8 9 3 0 1
6	6 2 4 7 9 3 8 7 9
7	5 0 8 5 4
8	4 5 8
9	3 9

Key 2|8=28

Mathematical Sciences Department

② محكن ارتب البيانات لداخليه

رتبة

Ordered Stem-and-Leaf Plot

بعد الحل

Key 2|8=28

2	8
3	
4	2 6 9
5	0 1 3 8 9
6	2 3 4 6 7 7 8 9 9
7	0 4 5 5 8
8	4 5 8
9	3 9

Interpretation: From the display, you can conclude that most of the scores are in the 60s

Mathematical Sciences Department

Pie chart رسم بالدائرة

المنهج السادس

IQ ACADEMY

Example (p. 56): The numbers of earned degrees conferred (in thousands) in 2007 are shown in the table. Use a pie chart to organize the data. What can you conclude?

يحلل من خلال السؤال

Earned Degrees Conferred in 2007

Type of degree	Number (thousands)
Associate's	728
Bachelor's	1525
Master's	604
First professional	90
Doctoral	60

الحل

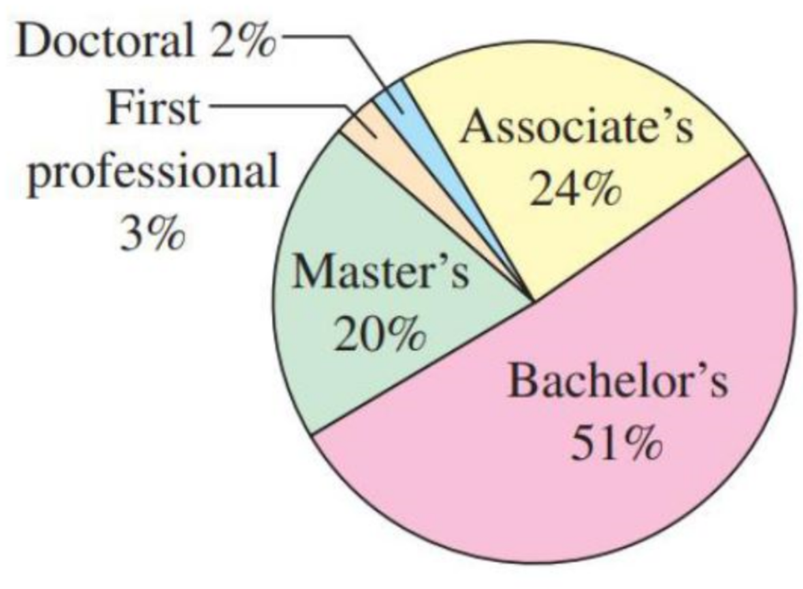
① الخطوة الأولى :- حساب المعدلين

Type of degree	f	Relative frequency	angle
Associate	728	$\frac{728}{3007} = 0.24$	$0.24 \times 360 = 86$
Bachelor	1525	$\frac{1525}{3007} = 0.51$	$0.51 \times 360 = 184$
Master	604	$\frac{604}{3007} = 0.20$	$0.20 \times 360 = 72$
F. Professional	90	$\frac{90}{3007} = 0.03$	$0.03 \times 360 = 11$
Doctoral	60	$\frac{60}{3007} = 0.02$	$0.02 \times 360 = 7$
sum	3007	1	360

② الخطوة الثانية:- ارسم الدائرة واقسمها طبقاً للزاوية مع كتابة النسبة المئوية داخلها

Type of degree	f	Relative frequency	Angle
Associate's	728	0.24	86°
Bachelor's	1525	0.51	184°
Master's	604	0.20	72°
First professional	90	0.03	11°
Doctoral	60	0.02	7°

Earned Degrees Conferred in 2007



→ Pareto chart رسم بياني بالأعمدة

نوع بسارع

Example (p. 57): Constructing a Pareto Chart

In a recent year, the retail industry lost $36.5 billion in inventory shrinkage. Inventory shrinkage is the loss of inventory through breakage, pilferage, shoplifting, and so on.The main causes of inventory shrinkage are administrative error ($5.4 billion), employee theft ($15.9 billion), shoplifting ($12.7 billion),
and vendor fraud ($1.4 billion). If you were a retailer, which causes of inventory shrinkage would you address first?

الحلول

١) الخطوة الأولى: ترتيب البيانات من الأكبر إلى الأصغر

Cause	Billions of dollars
Employee thef	15.9
Shoplifting	12.7
Administrative error	5.4
Vendor Fraud	1.4

٢) الخطوة الثانية: الرسم