PSM
INICET PYQ

Aiims 2015-16

Medsynapse by Dr. Nikita

Haddon matrix is related to:

PYP → Rule of halves
↓
HTN

a) Injury prevention ★
b) Communicable diseases
c) Maternal and child mortality
d) Hypertensive disorders → Rule of halves.

Bicycle injury prevn

	Victim person	Agent vehicle	Environment factors
Preinjury	Cycle training adult supervision	Reducing numbers and speed	Improved visibility around school entrances
Injury	Helmet use	Separating vehicles and cyclists	Enabling children to cycle on footpaths
Postinjury	Access to first aid	Vehicle redesign	Access to health services

② In a study, two groups of newborns are checked for their weights based on whether their mothers received food supplements or not. The appropriate test which can be used for comparing the data is:

Quantitative → t test
2 diff grps

a) Chi square test → categorical data / qualit → assocn/ prop.
b) Paired T-test
c) unpaired T-test → UP → 2 grp → 2 diff int
d) Fischer exact test

③ A researcher wants to do a study of blood levels of lipids among people who smoke and those who do not. But he is now concerned that the smokers might differ from non-smokers in their diet, exercise, etc as well. This concern is known as:

a) Recall bias → case control study ↑ starts ∵ case

b) Information bias → measurement

c) Selection bias ✓

d) Interviewer bias →

cohort → attrition bias.

Remove bias

Randomisation → and confounding

Blinding

* Hospital → Bedside
Berkesonian bias

* Hawthorne effect → behaviour change
↳ thorn "Haw"

Human Developmental Index is a composite measure, which uses?

HDI → KIL

PQLI → LIL (infant)

a) Life expectancy at age one, literacy and infant mortality

b) Freedom, spice and right to express oneself

c) Life expectancy at birth, infant mortality and quality of life

d) Life expectancy at birth, knowledge and decent standard of living

PQLI → LIL

KIL.

GHI → under-5 mortality

Food safety and standards authority of India comes under which ministry:

PYQ

• Disaster Mx
↓
ministry of
Home affairs

a) Rural statistics
b) Ministry of health and family and welfare
c) Ministry of consumer affairs food and public distribution
d) Ministry of agriculture

1. In a survey of sleep apnea scores among 10 people, the highest sample of 58 was entered by mistake as 85. This will affect the result as:

outliers ↓ median ★★

a) Increased mean, decreased median
b) Increased mean, increased median
c) Increased mean, no change in median
d) No change in mean, increased median

↑value even ! anywhere

Disease transmitted by this vector

Hairy

black → Kala azar

sandfly

a) Lyme disease → Tick — Rhyme Lyme

b) Yellow fever → AYDEC2

c) ~~Leishmaniasis~~

d) Scrub typhus →

From bicuiid mite

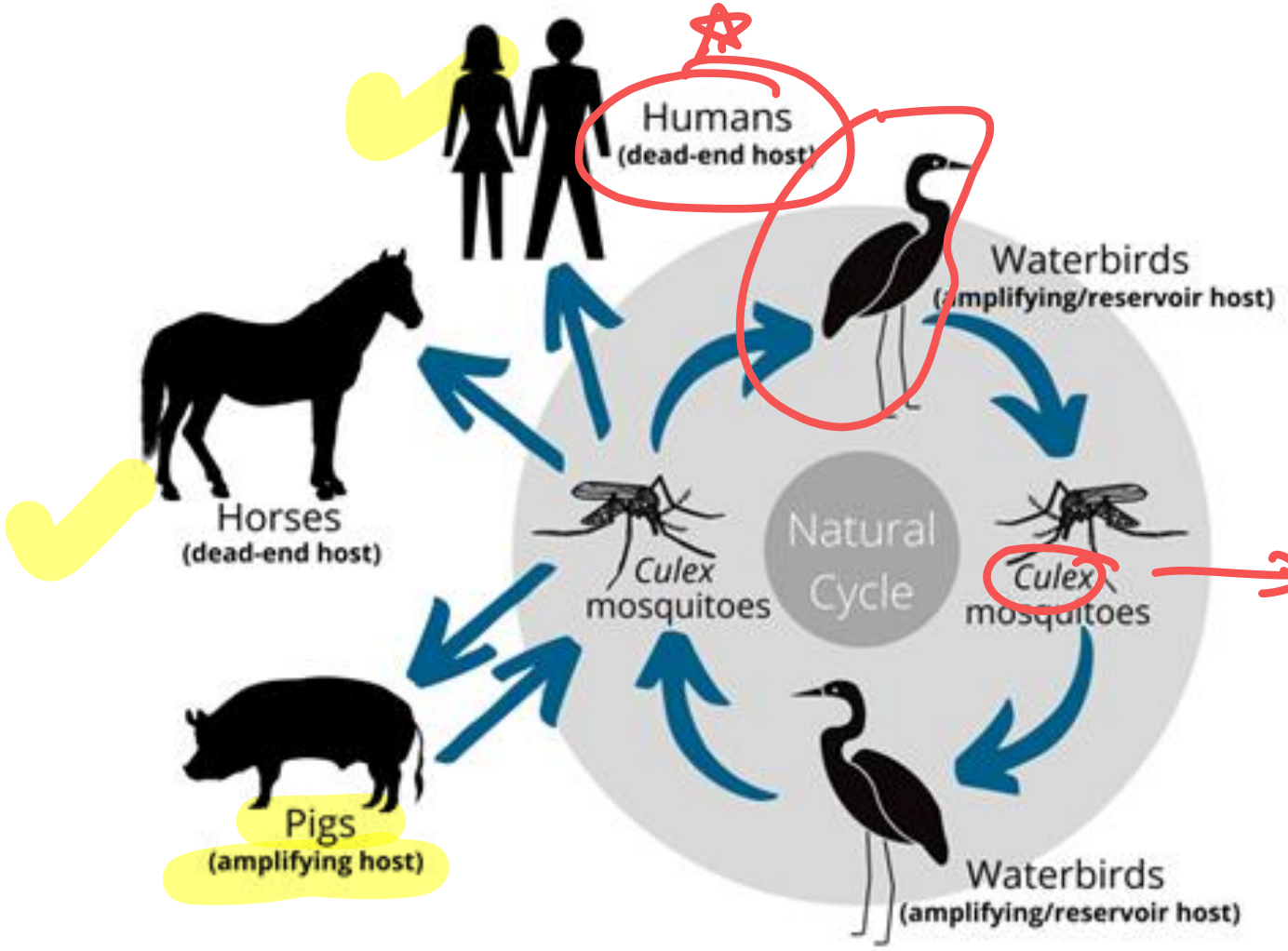
R. (8) usyam.

TSU = Trombiculid mite → scrub typhus.

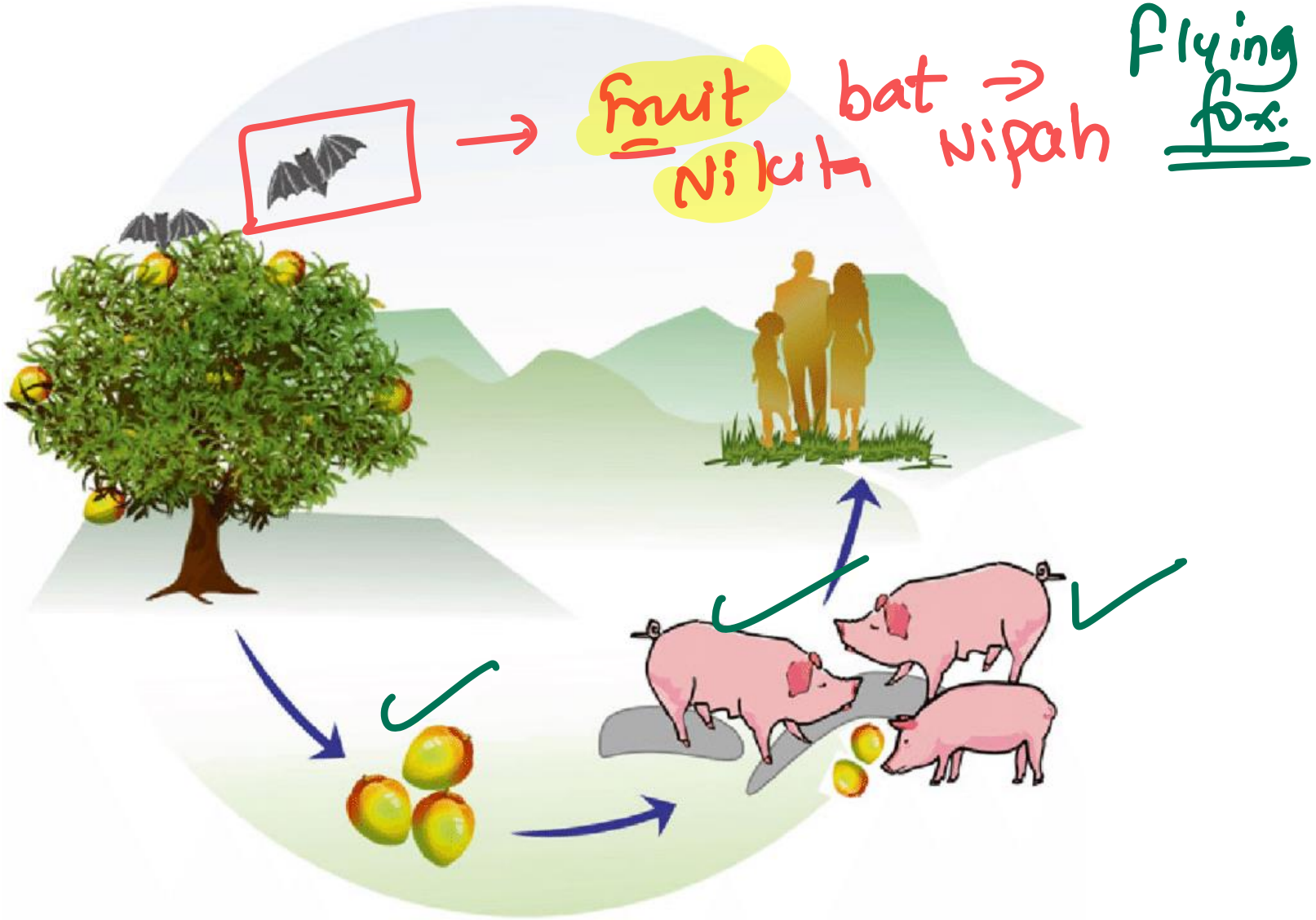
Amplifier host in Japanese encephalitis is

↳ pli → pig

a. Human
b. Monkey
c. Cyclops
d. Pig ✓



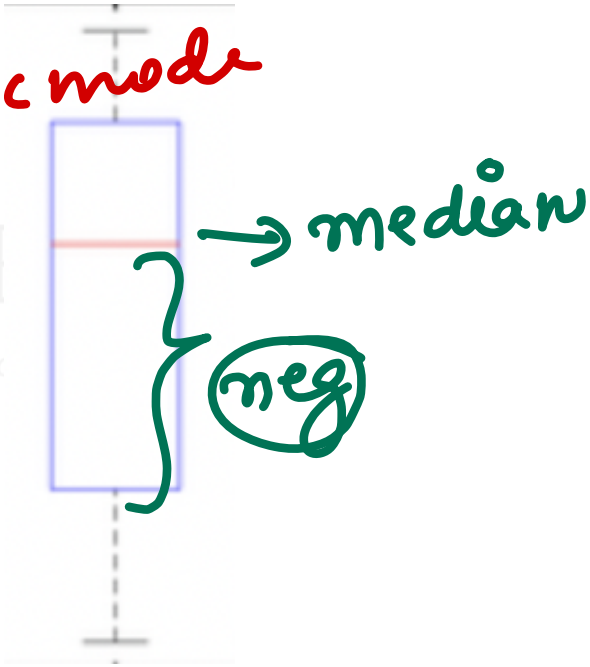
culē
Jagenus.


fruit
bat →
Nipah
Flying fox
Nikita

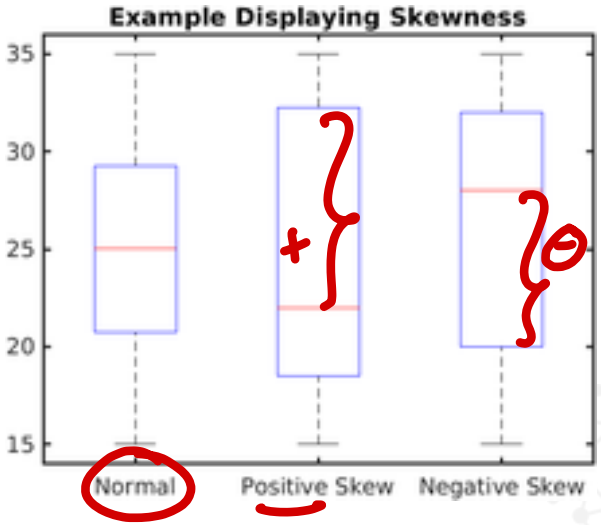
The following box plot shows the distribution of three sets of data around the mean. True statement is

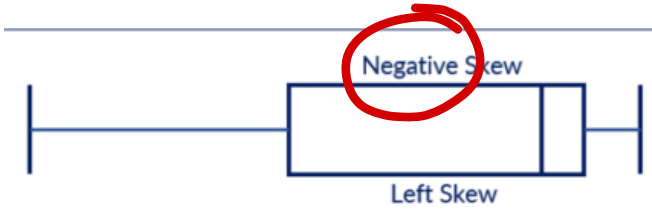
neg → mean min

mean < med < mode

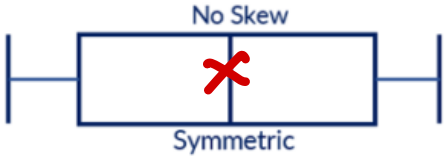


a) Negatively skewed
b) Mean will be more than median
c) Positively skewed
d) Normal distribution

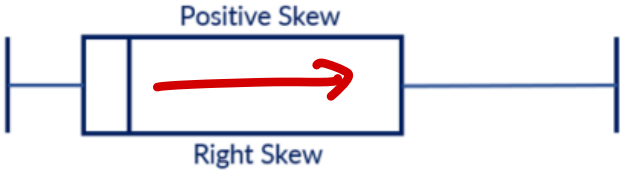




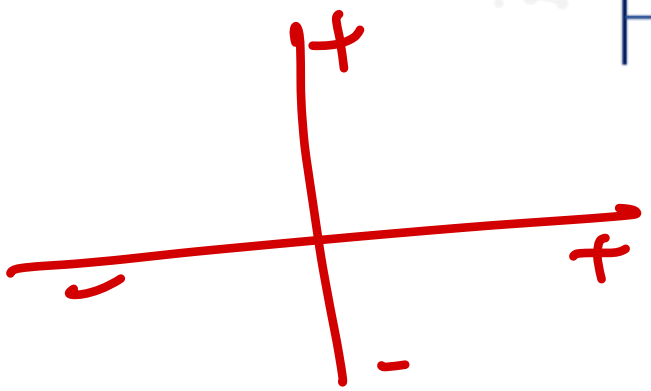
Median towards top of data
Median > Mean
Upper quartile is smaller than lower quartil



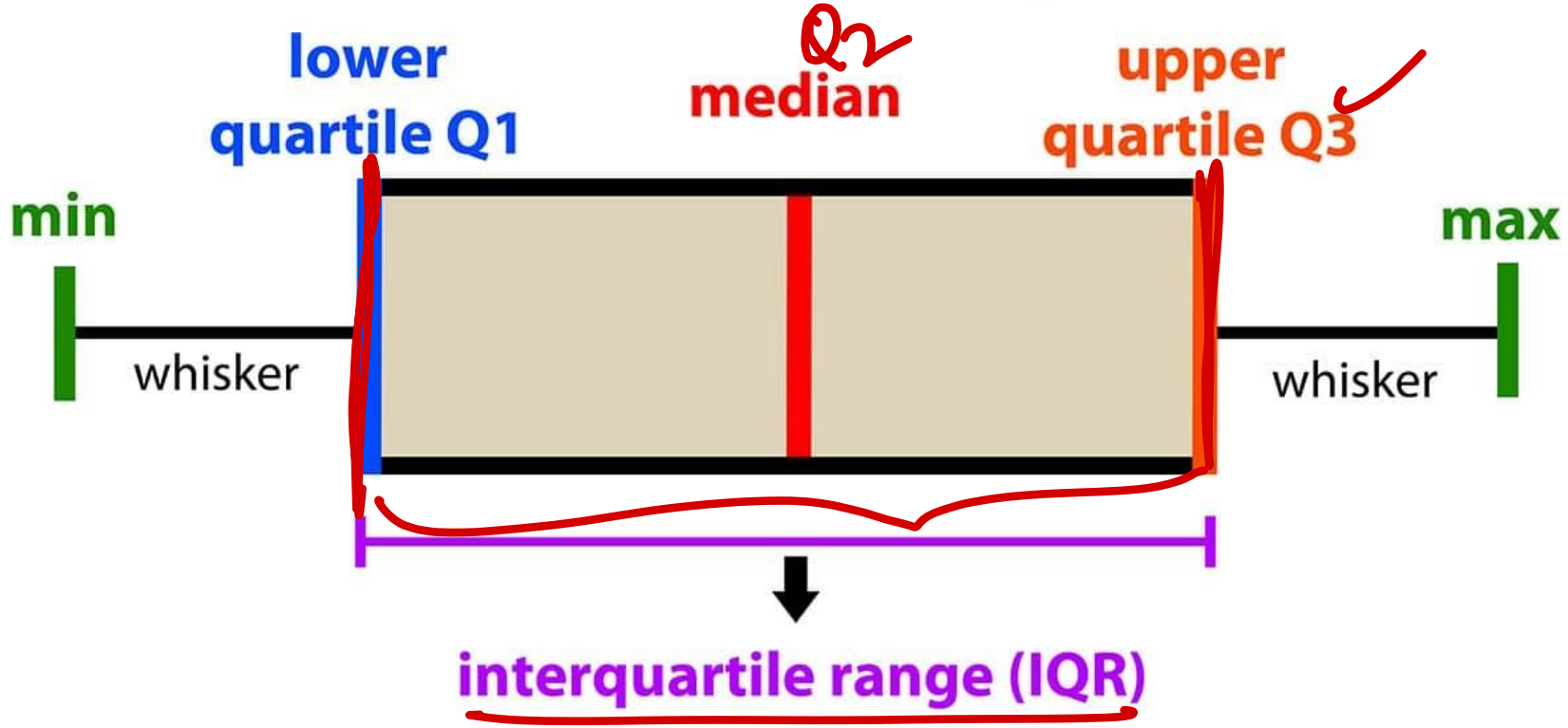
Median in the centre of the data
Median = Mean
Upper quartile is equal to lower quartile

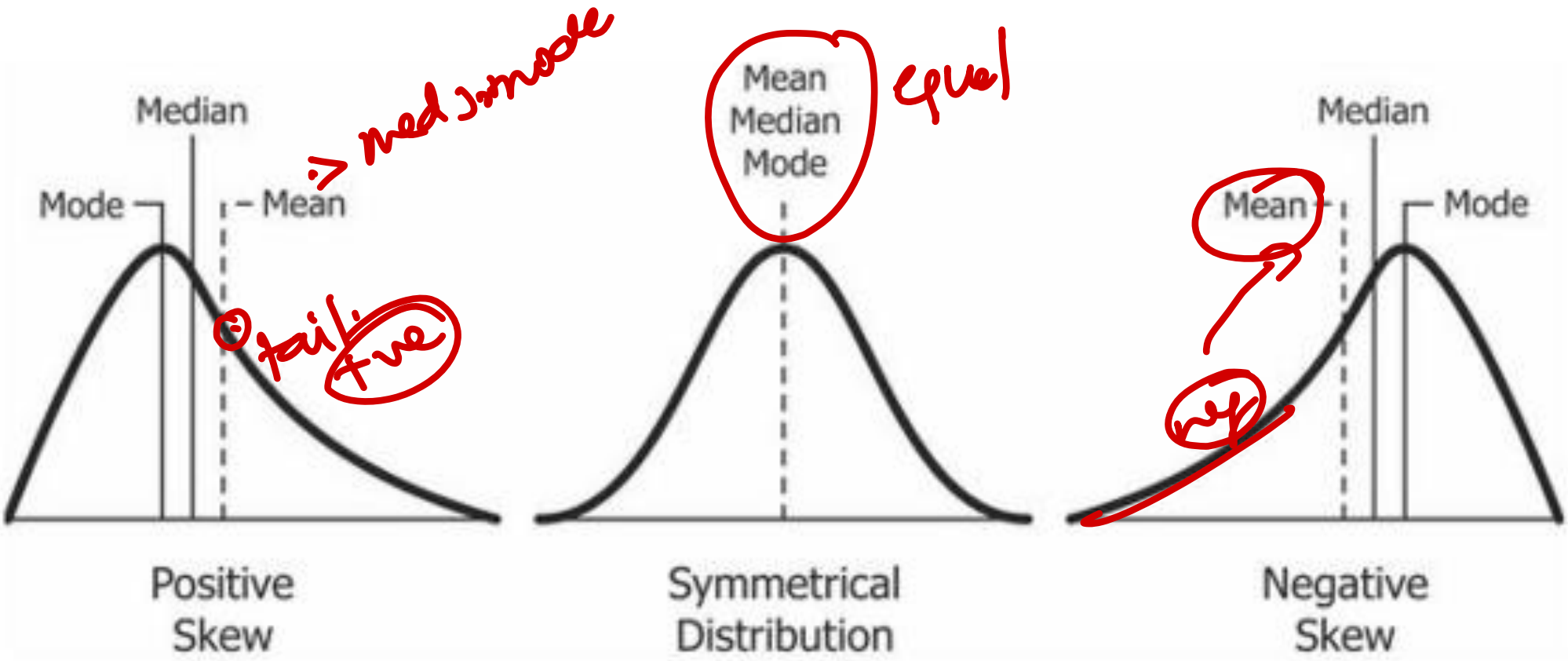


Median towards bottom of data
Median < Mean
Upper quartile is larger than lower quartile

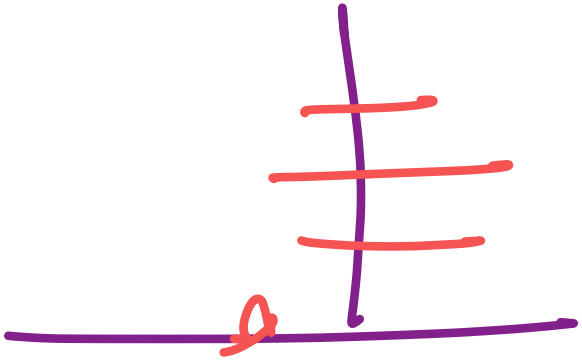


introduction to data analysis: Box Plot




Median
Mode
Mean
Positive
Skew
Mean
Median
Mode
Symmetrical
Distribution
Median
Mean
Mode
Negative
Skew

What is following type of data description called?



Stem	Leaf
5	3
6	9 5
7	9 2 0 2
8	4 7 9 5 3
9	0 4

a. Stem and leaf diagram
b. Forrest plot → meta analysis
c. Box whisker plot
d. Funnel plot → meta anal.

A latex agglutination test for detection of meningitis was approved. Calculate the sensitivity and specificity of the test based on the data given below:

	Test Positive (+)	Test Negative (−)
Diseased +	27 (TP)	3 (FN)
Non-diseased −	5 (FP)	95 (TN)

a) Sensitivity 90%, Specificity 95%

b) Sensitivity 95%, Specificity 90%

c) Sensitivity 80%, Specificity 90%

d) Sensitivity 75%, Specificity 95%

	Disorder	No Disorder
Positive Test Result	True Positive (TP)	False Positive (FP)
Negative Test Result	False Negative (FN)	True Negative (TN)

Sensitivity = TP/(TP+FN)
Specificity = TN/(TN+FP)
PPV = TP/(TP+FP)
NPV = TN/(FN+TN)

TPPV Prevalence↑

NPV

Out of 100 people who test +ve. mammog

↓

So actually had breast cancer

* pred value — Test results → diseased.

* disease → Test results → sensitivity/specificity

A researcher selected all possible samples from a population and plotted their means on a line graph. This distribution is called as:

* Sampling
Sample means

a. Sample distribution *
b. Sampling distribution *
c. Population distribution
d. Parametric distribution

The mean systolic blood pressure was measured in a sample population of elderly females and came out to be 125 mm Hg with a standard deviation of 10. 95 percent of people would have blood pressure above:

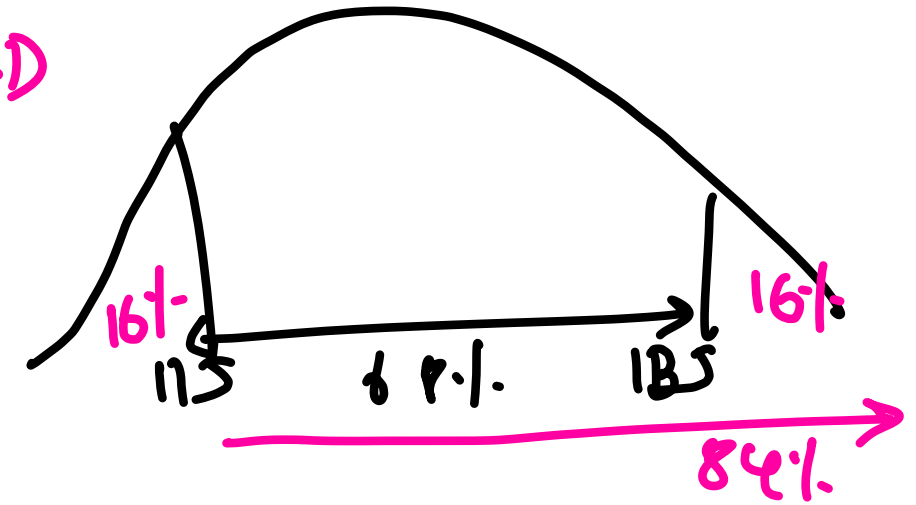
mean

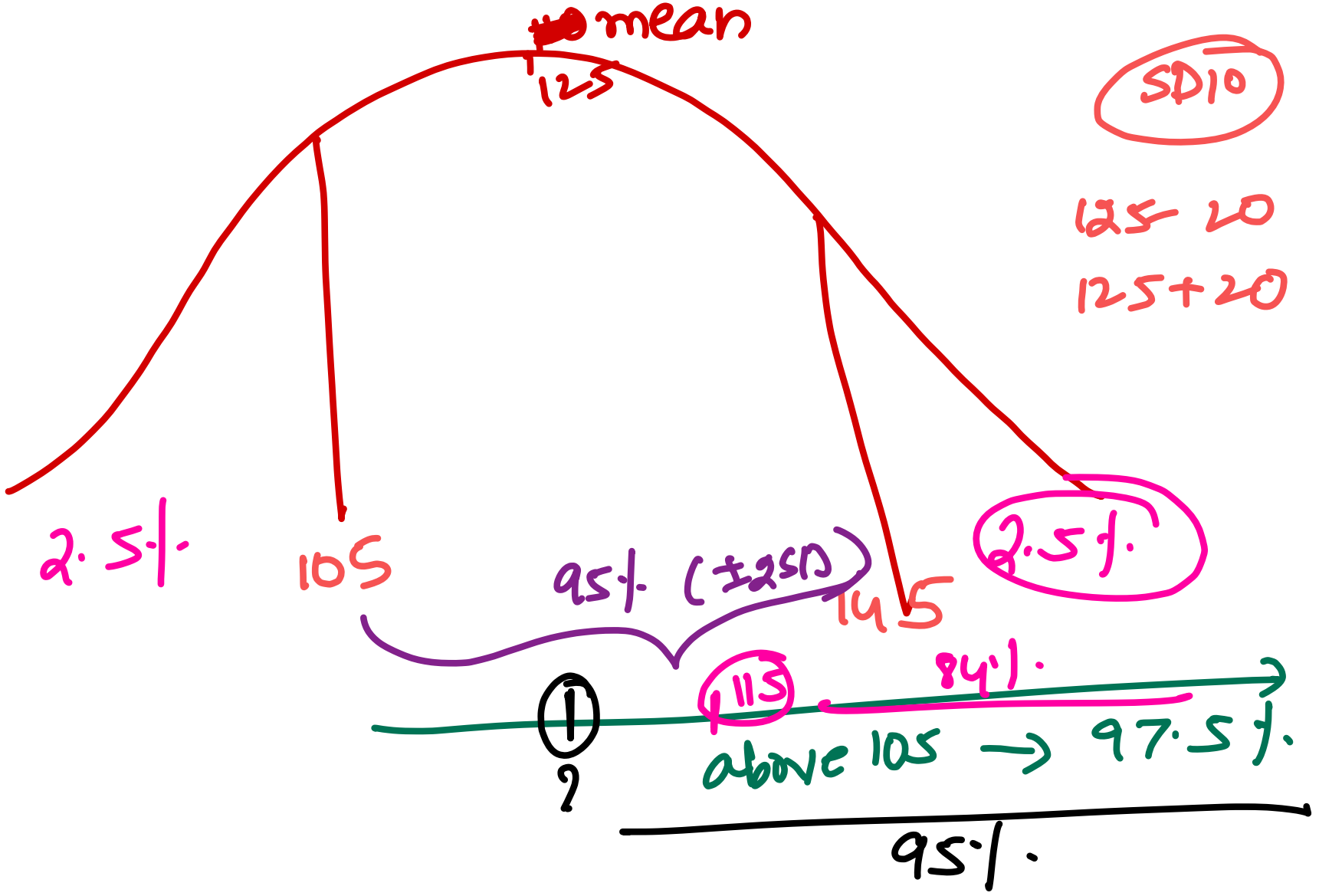
a. 105mmHg
b. 110mmHg
c. c. 115mmHg
d. d. 140mmHg

mean ± 1SD → 115 - 135 → 68%

above 115 →

95% mean ± 2SD




mean
125
SD10
125-20
125+20
2.5%
105
95% (±2SD)
145
2.5%
115
84%
above 105 → 97.5%
?
95%

* If Q asks → above what value 95% lie

↓

value between mean - 2SD and mean - 1SD

97.5% − 84%

A drug, which does not cure a disease but decreases its symptoms and increases survival, leads to?

P I D

↑prev = incid × ↑ durn

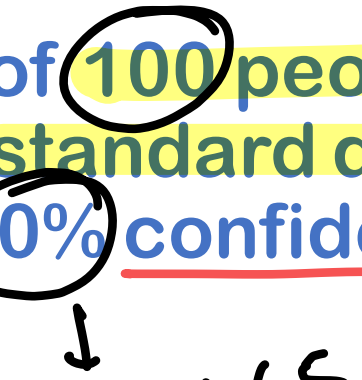
a. Increased prevalence → ∵ ↑ durn

b. b. Increased incidence

c. c. Decreased prevalence

d. d. Decreased incidence

In a group of 100 people, the average GFR is 85 ml/min with a standard deviation of 25. What is the range for 90% confidence interval?



C.I = mean + Z × S.E (→ 2.5 ↓) ; when n ↑

$$S.E = \frac{SD}{\sqrt{n}} = \frac{25}{\sqrt{100}} = 2.5$$

90%

a) 81-89
b) 80-90
c) c. 75-95
d) d. 70-100

Confidence interval

C.i → inv sample size

Range of values within which the true mean of the population is expected to fall, with a specified probability.

CI = 1 – α. The 95% CI (corresponding to α = 0.05) is often used. As sample size increases, CI narrows.

CI for sample mean = $\bar{x} \pm Z(SE)$

For the 95% CI, Z = 1.96.

For the 99% CI, Z = 2.58.

90% Z = 1.65