Statistics
Spring 2023
Lecture 3

Feb 19-8:47 AM

Some Review

1) Convert 0.025 to

a) Reduced fraction TI-83 or TI-84

.025 [MATH] [1:▶Frac] [Enter] $\frac{1}{40}$

a) $\frac{1}{40}$

b) % notation

.025 [X] 100 [Enter] 2.5

b) 2.5%

Feb 8-7:18 AM

Use Your Calc to Simplify

$$\frac{10(9000)-300^2}{10(10-1)} = \frac{10(9000)-90000}{10\cdot 9} = \frac{90000-90000}{90}$$

$$= \frac{0}{90} = 0$$

300 x^2 Enter

Do not use Ø for zero.

$$\frac{48-65}{\frac{10}{\sqrt{16}}} = \frac{-17}{\frac{10}{4}} = \frac{-17}{2.5} = -6.8$$

2nd x^2 16 Enter

$\sqrt{\ }$

Feb 8-7:22 AM

Simplify $1.645 \cdot \sqrt{\frac{(.4)(.6)}{50}}$, Round to 2-decimal places.

2nd x^2 .4 X .6 ÷ 50 Enter

$\sqrt{\ }$

X 1.645 Enter .11396 89431 ≈ .11

Ans * 1.645

If we round to 3-decimal places .114

Feb 8-7:29 AM

! Factorial

$0! = 1$ ✓

0 MATH ← PRB 4:! Enter 1 ✓

Find 12!

$12! = 12 \cdot 11 \cdot 10 \cdot 9 \cdot 8 \cdot \cdots \cdot 3 \cdot 2 \cdot 1$

12 MATH ← PRB 4:! Enter 479001600

Find 60!

60 MATH ← PRB 4:! Enter

Scientific Notation

$8.32\ldots E81$

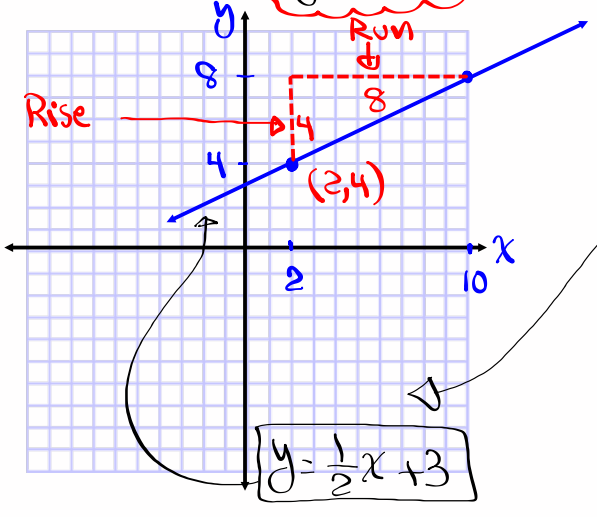
$\approx 8.3 \times 10^{81}$

Feb 8-7:37 AM

Plot (2,4), (10,8), then draw the line that contains them, also find equation of that line in $y = mx + b$ form.

Slope-Int Form

$\frac{\text{Rise}}{\text{Run}} = \frac{4}{8} = \frac{1}{2}$



$y = \frac{1}{2}x + b$

$4 = \frac{1}{2}(2) + b$

$4 = 1 + b$

$b = 3$

$y = \frac{1}{2}x + 3$

Feb 8-7:43 AM

A box has 2 red, 3 green, and 15 blue Color balls.

1) what % of the balls are green?

3 green out of 20 balls $3 = \frac{P}{100} \cdot 20$

3 is what % of 20? $3 = \frac{P}{5}$ $3 \cdot 5 = P$ $P = 15$

15%

2) what % of the balls are not green?

2 Red & 15 Blue out of 20 balls

17 out of 20

$\frac{17}{20} \cdot \frac{5}{100} = 17 \cdot 5 = 85$

85%

Feb 8-7:53 AM

Jose has 4 Sisters and he weighs 175 lb.

Describe data type for # of Sisters.

Quantitative, Discrete

Describe data type for his weight.

Quantitative, Continuous

Maria was asked to place envelopes in order of Zipcodes.

Identify the level of measurements.

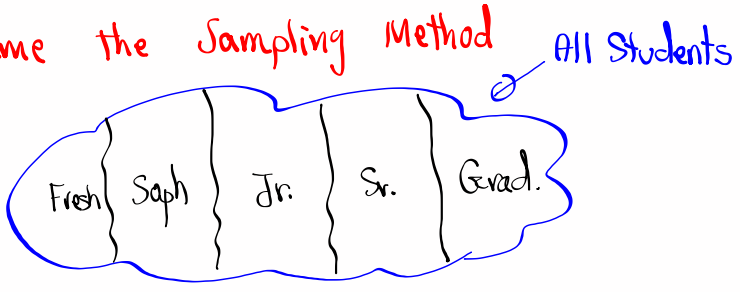
Ordinal

Maria drives between 10 to 15 miles everyday to go to work. Interval

Feb 8-7:59 AM

Lisa randomly selected 50 Freshmen, 80 Sophmore, 100 Jrs, 50 Srs., and 70 graduate students from Cal State LA to conduct student survey.

Name the Sampling Method



She is selecting from every group.

Stratified.

Feb 8-8:09 AM

Consider the Sample below

2, 3, 3, 4, 8

$n \rightarrow$ Sample Size $n = 5$

Mode → data element that repeated the most

Mode = 3

Range = Max − Min = 8 − 2 = 6

Midrange = $\frac{\text{Max} + \text{Min}}{2} = \frac{8+2}{2} = \frac{10}{2} = 5$ ✓

$8 + 2 \div 2 = 8 + 1 = 9$

(8 + 2) ÷ 2 Enter 5 ✓

$\sum x = 2 + 3 + 3 + 4 + 8 = 20$ ✓

Summation

$\sum x^2 = 2^2 + 3^2 + 3^2 + 4^2 + 8^2 = 102$ ✓

Find $\frac{n\sum x^2 - (\sum x)^2}{n(n-1)} = \frac{5 \cdot 102 - 20^2}{5(5-1)}$

$= \frac{5 \cdot 102 - 400}{5 \cdot 4} = \frac{510 - 400}{20} = \frac{110}{20} = 5.5$

Convert this answer to a reduced fraction

MATH 1:▶Frac Enter $\frac{11}{2}$

Feb 8-8:14 AM