

Pick Up the Warm Up

i)

In a particular week, the number of eggs laid by each hen on a farm was counted. The results are summarized in the following table.

Number of eggs	1	2	3	4	5	6
Frequency	4	7	12	10	14	13

(a) State whether these data are discrete or continuous. [1]

(b) Write down

- (i) the number of hens on the farm; $4 + 7 + 12 + 10 + 14 + 13 = 60$ hens
- (ii) the modal number of eggs laid. 5 eggs (occurs the most) [2]

(c) Calculate

- (i) the mean number of eggs laid;
- (ii) the standard deviation. [3]

a

1-Var Stats L1, L2

z

1-Var Stats

$\bar{x} = 4.033333333$

$\Sigma x = 242$

$\Sigma x^2 = 1118$

$Sx = 1.551015705$

$\sigma x = 1.538036266$

$n = 60$

$\bar{X} = \frac{\Sigma fx}{\Sigma f}$

$= \frac{242}{60} = 4.03$ eggs

STAT calc
1-Variable L1, L2

b The amount of eggs typically varies by 1.54 eggs from the mean (4.03)

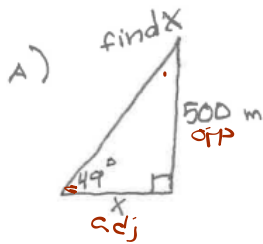
$S = \sqrt{\frac{1118}{60}} = 1.54$ eggs

2 Draw a box and whisker plot for the sample: speeds mph

15 17 33 39 51 60 72 80 85

min = 15
 $Q_1 = 25$
 $Q_2 = 33$
 $Q_3 = 51$
 max = 85

③ Right Triangle Stuff
 [if you can't use $a^2 + b^2 = c^2$, then think sohCohToa]

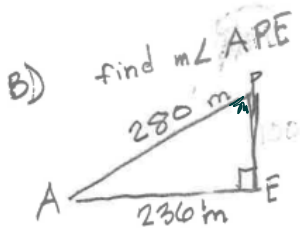


$$\tan(49^\circ) = \frac{500}{x} \rightarrow x = \frac{500}{\tan(49^\circ)}$$

$$x = 434$$

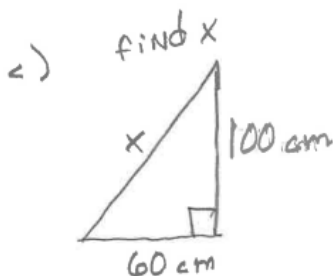
$$x = 434$$

$$x = 434.644 \approx \underline{435\text{ m}}$$



$$\sin(\widehat{APE}) = \frac{236}{280}$$

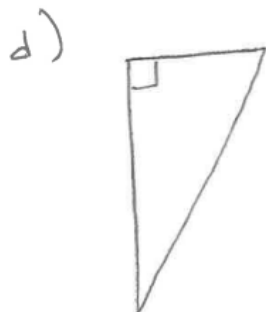
$$\widehat{APE} = \sin^{-1}\left(\frac{236}{280}\right) = 57.4^\circ$$



$$100^2 + 60^2 = x^2$$

$$x \approx 116.6$$

$$\underline{\underline{117\text{ cm}}}$$



Pick Up
the Green HW
Solutions

(I'll go over the back side)

A	B	C	D	E
COUNTRY	MATERNAL MORTALITY RATE (DEATHS/100,000 LIVE BIRTHS)	Frequency	$f * x$	$f*(x-101.34)^2$
Afghanistan	396	5	1980	434122.578
Albania	29	2	58	10466.1512
Algeria	140	5	700	7472.978
Angola	477	9	4293	1270083.92
Argentina	52	2	104	4868.8712
Armenia	25	3	75	17483.3868



Central Africa	882	5	4410	3047150.178
Chad	856	6	5136	3417070.294
Chile	22	7	154	44063.8492
	x	f	f * x	f*(x-101.34)^2
	Sum of the frequency	352	35672	
	Sum of f*x		35672	
	Mean		101.34	
	Sum f(x-x)^2			11784795.09
			Standard Deviation	182.974128

$$S = \sqrt{\frac{\sum f(x-x)^2}{\sum f}} = \sqrt{\frac{11784795}{352}} = 182.974128$$

$$\bar{X} = \frac{\sum f \cdot x}{\sum f} = \frac{35672}{352} = 101.34$$

Agenda Monday

- ✓ Go over review question
- ✓ Do one or two more
- ✓ Project Overview

INFO ABOUT TUESDAY'S TEST

- List of Aims

Use the same procedure as done in class to calculate both the mean and standard deviation, showing all critical totals below.

$$\text{Mean: } \bar{X} = \frac{\sum f \cdot x}{\sum f} = \frac{35672}{352} = 101.34$$

= 101
deaths
per 100,000
live
births

Standard Deviation:

$$S_x = \sqrt{\frac{\sum f(x_i - \bar{x})^2}{\sum f}} = \sqrt{\frac{\quad}{352}} = 182.97$$

= 183
deaths
per 100,000
live
births

If you have any troubles, get some help from another student or come in to get help.



LCQ

- ✓ GDC ← allowed on test
- ✓ formula sheet ←
- ✓ notes if necessary

Assignment

page 206...

Review Set A: 3, 6, 8

Review Set B: 1-3, 5

AND

Go back to the Stat Trek
Website. Study:

Planning a Study

▼ Surveys

Data collection

Sampling methods

Bias in surveys

