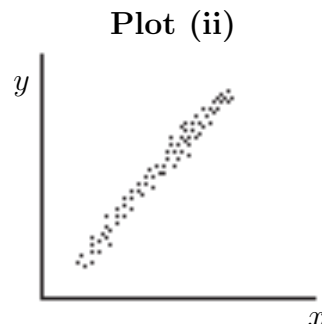
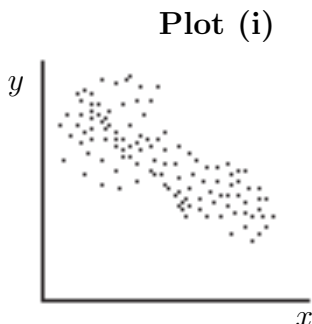


## MATH 120: Quiz 3 - 2/07/2019

(I) Each of the scatterplots below shows the relationship between two quantitative variables. Indicate which of the following best describes each situation:

- (a) the association is not linear
- (b) the association is linear, strong and positive
- (c) the association is linear, strong and negative
- (d) the association is linear, weak and positive
- (e) the association is linear, weak and negative



(II) A consumer magazine reports the following correlations about cars:

The correlation between car weight and reliability is  $-0.3$

The correlation between car weight and maintenance cost is  $0.2$

Assuming the conditions necessary for interpreting correlations are met, are the following true or false:

\* Heavier cars tend to be less reliable: \_\_\_\_\_

\* Heavier cars are cheaper to maintain: \_\_\_\_\_

\* Car weight is more strongly related to reliability than to maintenance cost: \_\_\_\_\_

### Solution

(I) Plot (i) = (e) the association is linear, weak and negative

Plot (ii) = (b) the association is linear, strong and positive

(II) Heavier cars tend to be less reliable: True

Heavier cars are cheaper to maintain: False

Car weight is more strongly related to reliability than to maintenance cost: True

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**Grading:** Total points possible = 6.

1 pt for any reasonable effort.

For (I): 1pt each for correct answers to Plot (i) and (ii).

For (II): 1 pt each for correct T/F answer to the 3 questions.