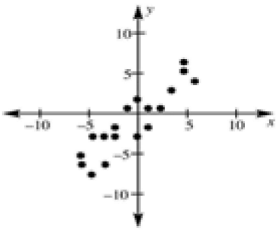
Name: _____ Class: _____ Date: _____ ID: A

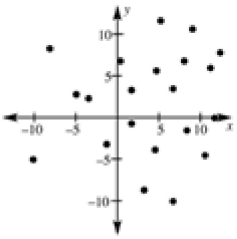
Unit 04-06 - Linear Regression Models

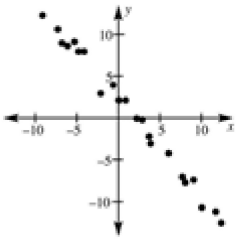
Multiple Choice
Identify the choice that best completes the statement or answers the question.

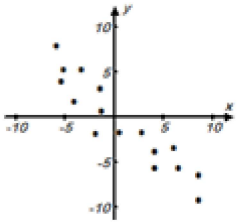
____ 1. Linear Regressions

Which data set below has the <u>weakest</u> correlation?

a. 

c. 

b. 

d. 

____ 2. Linear Regressions

The data below shows the screen size of the largest iPhone available over the last several years.

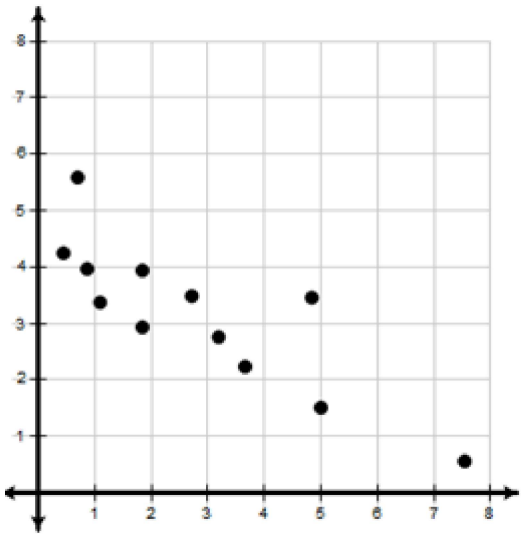
Find the correlation coefficient for the years after 2007 compared to the screen size.

YEAR	2007	2012	2014	2017	2021
Years after 2007	0	5	7	10	14
iPhone Screen Size (inches)	3.5 in.	4 in.	4.7 in.	5.8 in.	6.7 in.

a. $r \approx -0.9503$
b. $r \approx 0.9748$
c. $r \approx 0.2424$
d. $r \approx 0.93607$

____ 3. **Linear Regressions**

Which would be the best trend line for the given data set?



a. $y = -\frac{3}{2}x + 8$

b. $y = \frac{3}{2}x + 5$

c. $y = \frac{2}{3}x + 8$

d. $y = -\frac{2}{3}x + 5$

____ 4. **Linear Regressions**

The data below shows the distance of a commercial flight and the cost of the air fare charged for the trip.

Find the linear regression model for '*x*' miles traveled compared to the cost in '*y*' dollars.

	New York	San Fran.	Dallas	Orlando	Chicago
Distance from Atlanta, GA	864 miles	2500 miles	786 miles	437 miles	725 miles
Cost of Air Fare	$257	$442	$138	$178	$88

a. $y = 0.151x + 60.385$

b. $y = 0.122x - 0.437$

c. $y = 0.798x + 0.893$

d. $y = 0.316x - 1.268$

____ 5. **Linear Regressions**

The data below shows the minimum wage requirement of the U.S. government in years, x, after 1960. Based on the data provided, what could be a good estimate for the minimum wage in 2015 (x = 55) using a linear regression?

Year	1961	1964	1967	1969	1975	1976	1978	1979	1981	1992	1998
Years after 1960 (x)	1	4	7	9	15	16	18	19	21	32	38
Minimum Wage (y)	$1.00	$1.25	$1.50	$1.60	$2.10	$2.30	$2.65	$2.90	$3.35	$4.25	$5.15

a. $6.51
b. $6.94
c. $7.03
d. $7.25