

Name: _____ Page Number: 1
 Class: Math 1301 Date: 1-29-13
 Topic/Section: The Midpoint Formula

Examples and Vocabulary	Notes/Comments/Questions
$x =$ elapsed years from 1900 $y =$ average global temperature in degrees Fahrenheit $(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$, $(110, 57.8) = \left(\frac{100 + x_2}{2}, \frac{57.4 + y_2}{2} \right)$ ① What is the $[0, 120]$ graphing window by $[56, 58.2]$ used for this scatter plot? $2 \cdot 57.8 = \frac{57.4 + y_2}{2} \cdot 2$ $115.6 = 57.4 + y_2$ $58.2 = y_2$	$(x_2, y_2) = (120, 58.2)$ $(x, y) = (110, 57.8)$ $(x_1, y_1) = (100, 57.4)$ $\frac{56.8 + 57.2}{2}$ $= 57$ $\frac{57.4 + y_2}{2}$ $2 \cdot 110 = \frac{100 + x_2}{2} \cdot 2$ $220 = 100 + x_2$ $220 - 100 = x_2$ $120 = x_2$

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Examples and Vocabulary	Notes/Comments/Questions
② What was the average global temperature in 1900?	56.7°
③ Interpret the meaning of the ordered pair (50, 57.2). In 1950, the average global temperature was 57.2°.	

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Examples and Vocabulary	Notes/Comments/Questions
④ Use the Midpoint Formula to interpolate the avg. global temp. in 1945. 57° $(x, y) = \left(\frac{40+50}{2}, \frac{56.8+57.2}{2} \right)$ $= (45, 57)$	What is the Midpoint Formula used for? How is the Midpoint Formula helpful in practice?

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Examples and Vocabulary	Notes/Comments/Questions
⑤ Use the Midpoint Formula to extrapolate the avg. global temp. in 2020. 58.2°	

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Examples and Vocabulary	Notes/Comments/Questions
<u>Midpoint</u> <u>Formula</u> The point half way between two given points is called the <u>midpoint</u> between the two points. The midpoint (x, y) between the points (x_1, y_1) and (x_2, y_2) is $(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$ 	