$$
\sigma=\sqrt{\frac{\sum(x-\bar{x})^{2}}{n}}
$$

1. Match the standard deviation value with its graph.
(i) $\sigma=0$
(ii) $\sigma=10$

(iii) $\sigma=1$
d)

2. Two high schools kept a record of the number of students who received BRAVOS each day. Over a 5 day period, the following results were obtained:
$\begin{array}{lllllllllllll}\text { School A: } & 4 & 8 & 13 & 2 & 5 & \text { School B: } & 9 & 6 & 11 & 10 & 8\end{array}$
a) Determine the standard deviation for each school.

School A: standard deviation $=3.83$

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School B: standard deviation $=1.72$

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b) Which school has the greatest variation? Why?

School A has the greatest variation in BRAVOS distributed. Its standard deviation was larger at 3.83, compared to School B at 1.72. School A is more spread out - less consistent with distributing BRAVOS.
3. Angela conducted a survey to determine the number of hours per week that Grade 11 students at her school play video games. For the male students she already completed her calculations and got a mean of 12.84 hrs and a standard deviation of 2.16 hrs.
a) Help Angela finish the mean and standard deviation for the female students. Her survey results are:
$\begin{array}{llllllllll}4 & 6 & 15 & 10 & 3 & 10 & 6 & 5 & 12 & 8\end{array}$
Mean $=7.9 \quad$ standard deviation $=3.62$
b) Compare the results of the male and female students.

MALES: mean $=12.84$, standard deviation $=2.16$
FEMALES: mean $=7.9$, standard deviation $=3.62$
Male students play video games approximately 5 hrs more per week than female students. And the male standard deviation is lower meaning most males fall around the mean of 12.84 hrs playing. The females standard deviation was larger meaning their results were less consistent and more spread out about the mean playing time of 7.9 hrs.

