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1. Given independent random variables with means and standard deviations as shown, find the mean and standard deviation of:

- a) $X - 20$
- b) $0.5 Y$
- c) $X + Y$
- d) $X - Y$
- e) $Y_1 + Y_2$

	Mean	SD
X	80	12
Y	12	3

When you're done, submit your team answer to: <https://bit.ly/2uQCJqb> (Note that each problem has a different link)

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2. A consumer organization inspecting new cars found that many had appearance defects (dents, scratches, paint chips, etc.). While none had more than three of these defects, 8% had three, 11% two, and 21% one defect. Find the expected number of appearance defects in a new car and the standard deviation.

When you're done, submit your team answer to: <https://bit.ly/2uTaQO4>

3. In a litter of seven kittens, three are female. You pick two kittens at random.

- a) Create a probability model for the number of male kittens you get.
- b) What's the expected number of males?
- c) What's the standard deviation?

When you're done, submit your team answer to: <https://bit.ly/2WUO4kP>

4. James enjoys triathlon, which consists of three different sports discipline, cycling, swimming, and running. His record for cycling can be described by a Normal model with a mean of 20 minutes and standard deviation of 2 minutes, and swimming can be described by a Normal model with a mean of 12 minutes and standard deviation of 1.5 minutes. Running can be also described by a Normal model with a mean of 10 minutes and standard deviation of 2 minutes.

- a) What is the probability that cycling and swimming take over 40 minutes?
- b) What percentage of the trials take longer to complete running than swimming?

z-to-p

calculator:

http://vassarstats.net/tabs_z.html

When you're done, submit your team answer to: <https://bit.ly/2YZwy0C>