

## Math 153 - Quiz 8

November 3, 2016

Name \_\_\_\_\_

Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary.

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1. (5.5 points) 46.4% of Americans have full-time jobs. A sample of 55 Americans are selected at random.

- (a) What is the probability that exactly 26 of them have full-time jobs?
- (b) What is the probability that fewer than 30 have full-time jobs?
- (c) In the sample of 55, what would be an unusually small number of full-time workers?
- (d) Even though the sample is selected without replacement, you probably assumed the selections were independent of one another. How can you do this?

2. (4.5 points) During daytime hours, a certain customer service call center receives an average of 31.6 calls per hour.

- (a) In any given daytime hour, what is the probability that the center receives 31 calls?
- (b) In any given daytime hour, what is the probability that the center receives more than 35 calls?
- (c) Would it be unusual for the call center to receive 42 calls in an hour? Explain.