

Pick Up the
Warm Up

Warm Up on Review Day 1

30% of students have chewing gum in their bookbag. After Taco Tuesday at lunch, you desperately need some gum. You randomly ask students in your class until finding someone who has gum. Let G = the number of students you ask until finding gum.

1. Describe this probability distribution. Be sure to check the appropriate conditions.
2. What is the probability that the third person you ask is the first person with gum?
3. What is the probability that you find your first piece of gum **by the third** person?

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B - gum or no gum
 I - indep. (assume replacement) →
 T - until finding gum
 S - $P=0.3$

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$$P(G=3) = (.7)^2 (.3) = .147$$

$(1-p)^{x-1} (p)$

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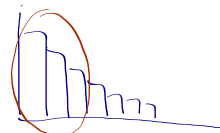
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- What is the probability that you find your first piece of gum by the third person?

$$P(G \leq 3) = (.7)^{1-1} (.3) + (.7)^{2-1} (.3) + (.7)^{3-1} (.3) = .657$$

geomet cdf $(.3, 3)$



- mean of rand. variable (Geometric)
4. How many people do you expect to ask before getting a piece of gum?
 5. Would you be surprised if you found your first piece of gum when you asked the last person in your class of 30 students?

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5. Would you be surprised if you found your first piece of gum when you asked the last person in your class of 30 students?

$$P(X=30) = (.7)^{29} (.3) = .00000966$$

Yes, that
is very unlikely

6. Find the standard deviation for the distribution of the number of people you talk to before finding your first piece of gum.

$$\sigma_G = \frac{\sqrt{1-p}}{p}$$

$$= \frac{\sqrt{.7}}{.3} = 2.789 \text{ people}$$

2.8 pe

2.7

Ch. 6 TEST is Wed.

Turn-in Ch. 6 HW at that time.

In a few minutes there will be
an LCQ (a partner one)

After I go over a few things
about the test.



Review
Options

for the Ch. 6
TEST

over the next two days

