

Binomial $\mu = np$ $\sigma = \sqrt{npq}$	Geometric $\mu = \frac{1}{p}$ $\sigma = \sqrt{\frac{q}{p^2}}$
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Feb 14-11:06 AM

Binomial $\mu = np$ $\sigma = \sqrt{npq}$ $(.04)^1 (.96)^4$	Geometric $\mu = \frac{1}{p}$ $\sigma = \sqrt{\frac{q}{p^2}}$ 2 nd Vars. Geometric f .04 5 at most $s = \{0, 1, 2, 3, 4, 5\}$ Geometric f (.04, 5) \rightarrow .185
x 0 1 = (.04) ¹ (.96) ⁰ 2 = (.04) ² (.96) ⁰ 3 = (.04) ³ (.96) ⁰ 4 = (.04) ⁴ (.96) ⁰ 5 = (.04) ⁵ (.96) ⁰	$(.96)^2 (.04)^1$ $(.96)^4 (.04)$

Feb 13-11:03 AM

Answers

1a) 25	2a) .128	4a) .0184
1b) .1846	2b) .488	4b) .1829
1c) .6925	2c) 5	4c) 50
1d) .3352	2d) 4.47	
	3a) 5	
	3b) .0655	
	3c) .107	
	3d) $\mu = 24$	
	$\sigma = 2.19$	

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1a) $\mu = \frac{1}{.04}$
 $\mu = 25$

1b) Geometric f (.04, 5) = .185

1c) at least the 10th
1 - Geometric f 9 = .6925
1 - Geometric f (.04, 9)

1d) 1 - Binomial f (10, .04, 0) = .3352

Feb 13-1:09 PM

2a) $p = .20$ $\mu = \frac{1}{p}$ $\sigma = \sqrt{\frac{q}{p^2}}$
 $x = 3$
Geometric pdf (.20, 3) = .128

2b) Geometric f (.20, 3) $P(X) \leq 3$ = .488

2c) $\frac{1}{.20} = 5$

2d) $\frac{.8}{(.20)^2} = 4.47$

Feb 14-8:15 AM

3a) $p = .8$
are buckled
2 are NOT
 $\mu = \frac{1}{.2} = 5$

3b) Geometric pdf (.20, 6) = .0655

3c) Exactly 10 ARE wearing seatbelt out of 10
Binomial pdf (10, .8, 10) = .107

3d) Binomial
 $n = 30$
 $\mu = 30(.8)$ $\sigma = \sqrt{30(.8)(.20)}$

Feb 14-8:27 AM

4a)
 $p = .02$
 Rejects

Geometpdf (.02, 5)
.0184

4b) Geometcdf (.02, 10.)
.1829

4c) $\mu = \frac{1}{p} = \frac{1}{.02}$.1829

Feb 14-8:38 AM