

Solutions to Sample problems 2.

1. (a) 12167000
(b) 12164000
2. $53 \frac{1}{3}$ minutes
3. (a) 126
(b) 21
(c) 70
4. $\frac{18}{49}$
5. (a) 12
(b) 198
(c) $\frac{100}{364}$
6. $\frac{11!}{4!2!}$
7. .3099
8. 0.0175
9. (a) .01622
(b) .0035057
(c) .0020856857
(d) $E(x) = 2.5$
10. (a) .2529
(b) 1
(c) 0.0253
11. (a) infinite discrete
(b) continuous
(c) finite discrete
(d) continuous

12. (a)

Number of Customers	0	1	2	3	4	5
Probability	$\frac{1}{60}$	$\frac{4}{60}$	$\frac{2}{60}$	$\frac{7}{60}$	$\frac{14}{60}$	$\frac{8}{60}$

Number of Customers	6	7	8	9	10
Probability	$\frac{10}{60}$	$\frac{6}{60}$	$\frac{3}{60}$	$\frac{4}{60}$	$\frac{1}{60}$

- (b) see class notes.
(c) $\frac{41}{60}$

- (d) $\frac{55}{60}$
(e) 4.95
(f) MEAN= 4.95, MEDIAN = 5, MODE = 4
Since the data represents a sample:
VAR = 5.0652, ST. DEV = 2.2506

13. 3000
14. distribution table for part a.

Sum	Net Winnings	Probability
7, 11	10	$\frac{8}{36}$
2, 3 12	-10	$\frac{4}{36}$
other	-5	$\frac{24}{36}$

- (a) \$-2.22
(b) \$6
15. (a) 0.6526
(b) 4.8
(c) 2.1014
(d) 4.416
16. $P(111 \leq X \leq 139) \geq 0.4898$
17. ≤ 0.64
18. (a) .0401
(b) .2266
(c) 0
(d) .7333

19. under 9.1187 minutes or under 9 minutes and 7 seconds
20. (a) .2437
(b) .003527
(c) about 97
21. .8186
22. A = 46.9892