Probability Distributions

The following probability distribution represents the number of children students have in a Math 227 course.

Let x represent the number of children.

$$x = \# \; of \; children$$

x	p(x)
0	0.364
1	0.227
2	0.182
3	0.136
4	0.091

Total   **1**

If you select a person at random, what's the probability the person has:
1. More than one child?
2. No more than two children?
3. At least one child?
4. Less than three children?
5. At least two children?
6. Between one and three children?
7. What is the mean for this distribution?
Approximate to the nearest tenths
8. What is the standard deviation for this distribution?
Approximate to the nearest tenths

The following probability distribution represents the hours of sleep students get the night before an exam.

Let x represent the hours of sleep

$$x = \#\ of\ hours\ of\ sleep$$

x	p(x)
0	0.071
1	0.048
2	0.024
3	0.024
4	0.119
5	0.143
6	0.190
7	0.286
8	0.095

Total   **1.000**

If you select a person from this table, What's the probability the person slept for:
9.   At least one hour?
10. At least three hours?
11. More than seven hours?
12. No more than four hours?
13. Less than two hours?
14. Between five and eight hours?
15. What is the mean for this distribution?
Approximate to the nearest tenths
16. What is the standard deviation for this distribution?
Approximate to the nearest tenths

The following probability distribution represents the number of boys a couple has when having **5 children**.

Let x represent the number of boys

$$x = \#\ of\ boys$$

x	P(x)
0	0.031
1	0.156
2	0.313
3	0.313
4	0.156
5	0.031

Total **1.000**

If you select a couple at random, what's the probability the couple has:
   17. At least one boy?
   18. At least four boys?
   19. More than three boys?
   20. No more than two boys?
   21. Less than one boy?
   22. Between one and four boys?
   23. What is the mean for this distribution?
   Approximate to the nearest tenths
   24. What is the standard deviation for this distribution?
   Approximate to the nearest tenths

The following probability distribution represents the number of boys a couple has when having **4 children**.

Let x represent the number of girls

$$x = \# \ of \ girls$$

x	p(x)
0	0.063
1	0.25
2	0.375
3	0.25
4	0.063

Total   1.001

If you select a couple at random, what's the probability the couple has:
   25. At least one girl?
   26. At least two girls?
   27. More than one girl?
   28. No more than two girls?
   29. Less than four girls?
   30. Between two and four girls?
   31. What is the mean for this distribution?
   Approximate to the nearest tenths
   32. What is the standard deviation for this distribution?
   Approximate to the nearest tenths