

1. A hospital researcher is interested in the number of times the average post-op patient will ring the nurse during a 12-hour shift. For a random sample of 50 patients, the following information was obtained.

x	$P(X = x)$
0	$\frac{2}{25}$
1	$\frac{4}{25}$
2	$\frac{8}{25}$
3	$\frac{7}{25}$
4	$\frac{3}{25}$
5	$\frac{1}{25}$

where X = the number of times a patient rings the nurse during a 12-hour shift.

For this exercise, $x = 0, 1, 2, 3, 4, 5$.

$P(X = x)$ = the probability that X takes on value x .

Find $P(2 < X < 5)$.

A. $P(2 < X < 5) = \frac{9}{20}$.

B. $P(2 < X < 5) = \frac{19}{50}$.

C. $P(2 < X < 5) = \frac{11}{25}$.

D. $P(2 < X < 5) = \frac{2}{5}$.

E. $P(2 < X < 5) = \frac{21}{50}$.

F. $P(2 < X < 5) = \frac{37}{100}$.

G. $P(2 < X < 5) = \frac{7}{20}$.

H. $P(2 < X < 5) = \frac{41}{100}$.

2. A hospital researcher is interested in the number of times the average post-op patient will ring the nurse during a 12-hour shift. For a random sample of 50 patients, the following information was obtained.

x	$P(X = x)$
0	
1	$\frac{4}{25}$
2	$\frac{8}{25}$
3	$\frac{7}{25}$
4	$\frac{3}{25}$
5	$\frac{1}{25}$

where X = the number of times a patient rings the nurse during a 12-hour shift.

For this exercise, $x = 0, 1, 2, 3, 4, 5$.

$P(X = x)$ = the probability that X takes on value x .

Fill in the missing value of the table below.

A. $P(X = 0) = \frac{2}{25}$.

B. $P(X = 0) = \frac{1}{20}$.

C. $P(X = 0) = \frac{9}{100}$.

D. $P(X = 0) = \frac{1}{10}$.

E. $P(X = 0) = \frac{3}{25}$.

F. $P(X = 0) = \frac{11}{100}$.

G. $P(X = 0) = \frac{7}{100}$.

H. $P(X = 0) = \frac{3}{50}$.

3. A company wants to evaluate its attrition rate, in other words, how long new hires stay with the company. Over the years, they have established the following probability distribution.

Let X = the number of years a new hire will stay with the company.

Let $P(X = x)$ = the probability that a new hire will stay with the company x years.

Use the table below to answer the following question.

x	$P(X = x)$
0	0.08
1	0.22
2	0.26
3	0.19
4	0.06
5	0.14
6	0.05

Find $P(1 \leq X \leq 5)$.

A. $P(1 \leq X \leq 5) = 0.82$.

B. $P(1 \leq X \leq 5) = 0.89$.

C. $P(1 \leq X \leq 5) = 0.92$.

D. $P(1 \leq X \leq 5) = 0.87$.

E. $P(1 \leq X \leq 5) = 0.88$.

F. $P(1 \leq X \leq 5) = 0.9$.

G. $P(1 \leq X \leq 5) = 0.86$.

H. $P(1 \leq X \leq 5) = 0.85$.

4. A hospital researcher is interested in the number of times the average post-op patient will ring the nurse during a 12-hour shift. For a random sample of 50 patients, the following information was obtained.

x	$P(X = x)$
0	$\frac{2}{25}$
1	$\frac{4}{25}$
2	$\frac{8}{25}$
3	$\frac{7}{25}$
4	$\frac{3}{25}$
5	$\frac{1}{25}$

where X = the number of times a patient rings the nurse during a 12-hour shift.

For this exercise, $x = 0, 1, 2, 3, 4, 5$.

$P(X = x)$ = the probability that X takes on value x .

Find $P(X = 5)$.

A. $P(X = 5) = \frac{3}{100}$.

B. $P(X = 5) = -\frac{1}{100}$.

C. $P(X = 5) = \frac{3}{50}$.

D. $P(X = 5) = \frac{2}{25}$.

E. $P(X = 5) = \frac{1}{25}$.

F. $P(X = 5) = \frac{7}{100}$.

G. $P(X = 5) = 0$.

H. $P(X = 5) = \frac{9}{100}$.

5. A company wants to evaluate its attrition rate, in other words, how long new hires stay with the company. Over the years, they have established the following probability distribution.

Let X = the number of years a new hire will stay with the company.

Let $P(X = x)$ = the probability that a new hire will stay with the company x years.

Fill in the missing value of the table below.

x	$P(X = x)$
0	0.09
1	
2	0.27
3	0.18
4	0.07
5	0.13
6	0.05

- A. $P(X = 1) = 0.2$.
- B. $P(X = 1) = 0.17$.
- C. $P(X = 1) = 0.23$.
- D. $P(X = 1) = 0.16$.
- E. $P(X = 1) = 0.19$.
- F. $P(X = 1) = 0.25$.
- G. $P(X = 1) = 0.18$.
- H. $P(X = 1) = 0.21$.

6. A hospital researcher is interested in the number of times the average post-op patient will ring the nurse during a 12-hour shift. For a random sample of 50 patients, the following information was obtained.

x	$P(X = x)$
0	0.16
1	0.14
2	0.34
3	0.11
4	0.14
5	0.06
6	0.05

where X = the number of times a patient rings the nurse during a 12-hour shift.

For this exercise, $x = 0, 1, 2, 3, 4, 5$.

$P(X = x)$ = the probability that X takes on value x .

Interpret the meaning of $P(X \geq 4)$.

- A. $P(X \geq 4)$ is the probability that a patient will ring more than 4 times.
- B. $P(X \geq 4)$ is the probability that a patient will ring 4 times or more.
- C. $P(X \geq 4)$ is the probability that a patient will ring less than 4 times.
- D. $P(X \geq 4)$ is the probability that a patient will ring 4 times.
- E. $P(X \geq 4)$ is the probability that a patient will ring 4 times or less.

7. A company wants to evaluate its attrition rate, in other words, how long new hires stay with the company. Over the years, they have established the following probability distribution.

Let X = the number of years a new hire will stay with the company.

Let $P(X = x)$ = the probability that a new hire will stay with the company x years.

Use the table below to answer the following question.

x	$P(X = x)$
0	0.16
1	0.14
2	0.34
3	0.11
4	0.14
5	0.06
6	0.05

Interpret the meaning of $P(X < 2)$.

- A. $P(X < 2)$ is the probability an employee will stay with the company for less than 2 years.
- B. $P(X < 2)$ is the probability an employee will stay with the company for more than 2 years.
- C. $P(X < 2)$ is the probability an employee will stay with the company for at least 2 years.
- D. $P(X < 2)$ is the probability an employee will stay with the company for 2 years.
- E. $P(X < 2)$ is the probability an employee will stay with the company for at most 2 years.

8. A hospital researcher is interested in the number of times the average post-op patient will ring the nurse during a 12-hour shift. For a random sample of 50 patients, the following information was obtained.

x	$P(X = x)$
0	0.14
1	0.16
2	0.32
3	0.13
4	0.12
5	0.08
6	0.05

where X = the number of times a patient rings the nurse during a 12-hour shift.

For this exercise, $x = 0, 1, 2, 3, 4, 5$.

$P(X = x)$ = the probability that X takes on value x .

Interpret the meaning of $P(X < 5)$.

- A. $P(X < 5)$ is the probability that a patient will ring 5 times or more.
- B. $P(X < 5)$ is the probability that a patient will ring 5 times.
- C. $P(X < 5)$ is the probability that a patient will ring 5 times or less.
- D. $P(X < 5)$ is the probability that a patient will ring less than 5 times.
- E. $P(X < 5)$ is the probability that a patient will ring more than 5 times.