

Question 0

Question 0.

Shooting Success rate = 10%
Probability of killing enemy = 80%

Assuming P is probability of all
shots missing enemy

So $(1-p)$ is the probability you
killed the enemy.

$$P = \sum_{k=0}^n \binom{n}{k} p^k (1-p)^{n-k}$$

$p = 0.1$ as probability is 10%

$$\Rightarrow \binom{n}{0} 0.1^0 (0.9)^n$$

$$\binom{n}{0} 0.1^0 (0.9)^n$$

$\binom{n}{0} 0.1^0 (0.9)^n$

$n = 10$	$p = 0.34 \Rightarrow 1 - 0.34 = 0.66$
$n = 13$	$p = 0.25 \Rightarrow 1 - 0.25 = 0.75$
$n = 15$	$p = 0.21 \Rightarrow 1 - 0.21 = 0.79$
$n = 16$	$p = 0.189 \Rightarrow 1 - 0.189 = 0.81$

Shoot 16 times to kill enemy at a rate of 0.81 e.g. 81 percent at 16 shots with an success rate of 10 percent and a probability to kill enemy of 80 percent it takes 16 to kill the enemy as the rate is 81 percent that's above the 80 percent probability rate to kill enemy.

Question 1:

Q1

10 = 0000 1010
1 = 0000 0001
5 = 0000 0101
64 = 0100 0001

10. 1. 5. 64/28

10 = 0000 1010 ✓ match
1 = 0000 0001 ✓ match
5 = 0000 0101 ✓ match
64 = 0100 0001 ✓ match
Custom network mask 28

10. 1. 5. 64/29

10 = 0000 1010 ✓ match (Custom network mask 29)
1 = 0000 0001 ✓ match
5 = 0000 0101 ✓ match
64 = 0100 0001 ✓ match

* This is the way its sent

10. 1. 5. 64/29.

The custom network : mask of 29 allows more bits to match the destination and so its sent to so as all within the custom network mask of 29 match

Question 2:

Q2 Attempt

131 = 1000 0011
 23 = 0001 0111
 151 = 1011 0101
 76 = 0100 1100

Attempt 1

31 = 1000 0011 Match
 16 = 0001 0000 Match
 0 = 0000 0000
 0 = 0000 0000

Custom network
 mask 12 bits

Attempt 2

131 = 1000 0011 Match
 28 = 0001 1100 Match
 0 = 0000 0000
 0 = 0000 0000

Custom network
 mask 14 bits

Attempt 3

151 = 1000 0011
 192 = 0001 0011
 0 = 0000 0000
 0 = 0000 0000

Custom network
 prefix mask 16 bits

Attempt 4

131 = 1000 0011
 22 = 0001 0110
 0 = 0000 0000
 0 = 0000 0000

✓ This is the output interface identifier 1.
 Custom network mask 15

The output interface identifier is 1 at 130.22.0.0/15 has more bits that match the 131.23.151.76 than any of the others.

Question 3:

1. Next Hop D
2. Next Hop B
3. Next Hop D