

# **Jslife and the M16**

## ***GURPS Analysis***

### ***The facts:***

#### **DISTANCE AND COVER:**

The two 50m targets are head and shoulders only.

The 100m target is head and shoulders only.

The further targets, at 150m, 200m, 250m, and 300m are full silhouettes but only about 3/4 exposed.

There are some bushes and trees but I don't see that they provide any cover, just distraction.

#### **FIELD OF VIEW:**

The closest 50m targets are 45-degrees apart. (This would only be pertinent if he'd fired once per second at targets far apart.)

#### **TARGETS, EXPOSURE TIME:**

Total of 7 targets, 2x 50m and 1 of the rest:

The 50m and 100m targets pop up and are visible for 3 seconds.

The 150m and 200m targets pop up for 5 seconds.

The 250 and 300m targets stay up for 7 seconds.

#### **PERFORMANCE DATA:**

Jacob missed the 250m and 200m targets each once, and missed the 150m target twice while kneeling.

He did not fire at the 300m target since he expended an extra bullet on the 150m target.

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### ***Calculations (4th edition):***

#### **Size of target:**

Head & shoulders targets, 2' high by 3' wide by jslife's estimate, give a -2.

Larger semi-concealed targets are -1 for size.

Remember that the 150m+ targets are larger, offsetting range.

Range adjustments:

- 50m = -8
- 100m = -10
- 150m = -10
- 200m = -11
- 250m = -12
- 300m = -12

We'll assume 2 seconds of aiming at each, so Acc+1.

We can assume an All-Out Attack (Determined) = +1 (unmolested by enemy fire, no reason to defend)

While prone, +1 for Braced

Weapon Acc (4th edition) = 5 (5.56mm/.223TL7 assault rifle)

So, while Prone and Determined, and 2 seconds of aiming at a 50m target:

- +6 aim (acc+1)
- +1 prone
- +1 determined
- 8 for range
- 2 for size

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SK-2

- 100m = SK-4 (smaller target, -2)
- 150m = SK-4 (larger target, -1)
- 200m = SK-5 (larger target, -1)
- 250m = SK-6 (larger target, -1)
- 300m = SK-6 (larger target, -1)

It's easy to see that to have 50/50 chance (chart below) at hitting anything on this range at 200m under these conditions, a guy would have to have a skill of 16 (far right column).

But Jacob missed everything at 150+ yards (his 4 misses: 2x 150m, 1x 200m, 1x250m), which maybe we can assume means he had less than 50% chance of hitting at those ranges?, which would imply a skill of 15? This is just a 'ball park' estimate. Since he hit 100% of the targets he hit and missed 100% of the targets he missed, not sure what the statistics/probability math is here.

### Table of Probabilities for Rolling 3d6

Result	Chance to Roll Result Exactly	Chance to Roll Result or Less	Chance to Roll Result or More
3	0.4629%	0.4629%	100.0000%
4	1.3888%	1.8518%	99.5370%
5	2.7777%	4.6296%	98.1481%
6	4.6296%	9.2592%	95.3703%
7	6.9444%	16.2037%	90.7407%
8	9.7222%	25.9259%	83.7962%
9	11.5740%	37.5000%	74.0740%
10	12.5000%	50.0000%	62.5000%
11	12.5000%	62.5000%	50.0000%
12	11.5740%	74.0740%	37.5000%
13	9.7222%	83.7962%	25.9259%
14	6.9444%	90.7407%	16.2037%
15	4.6296%	95.3703%	9.2592%
16	2.7777%	98.1481%	4.6296%
17	1.3888%	99.5370%	1.8518%
18	0.4629%	100.0000%	0.4629%

**BONUS: Commentary from the dnd-list:**

**Madaffer:**

Ahh, that's badass, but I might add wind at those distances on a piece of flying metal with quite a bit of air resistance is significant. I am saying that his skill would be a 16 or 17 given winds/bullet air resistance. What say ye to this addendum.

**Brant:**

I assume the gurps rules takes into account air resistance (everything isn't considered to be taking place in a vacuum- is it?)

Kudos to Jacob for kicking ass- as we knew he would. A person with Jacob's intelligence should always score expert on the range (this is the type of performance I expect from him). I scored expert with a .38, and my dad scored expert with everything fricking firearm the military had in the 70's and 80's. I have no doubt Jess would also score expert.

**Madaffer:**

what about John and myself?

wtf.

**Masterson:**

I shot a bunny in the eye with a BB gun once.

**Jess:**

Was the bunny someone's pet in a cage?

**Brant:**

Nick, we can't all be experts. But I want you to know you have a great personality, and Jesus loves you anyway.

Seriously though, people who are pretty sharp, and aren't physically retarded will shoot well.

**Madaffer:**

true dat. and i agree with you on the GURPS taking into account air resistance.