Gradual Speed Reduction as Robot Approaches Wall.

IF: Min torque = 0, stopping distance = 20 mm, braking begins = 80 mm

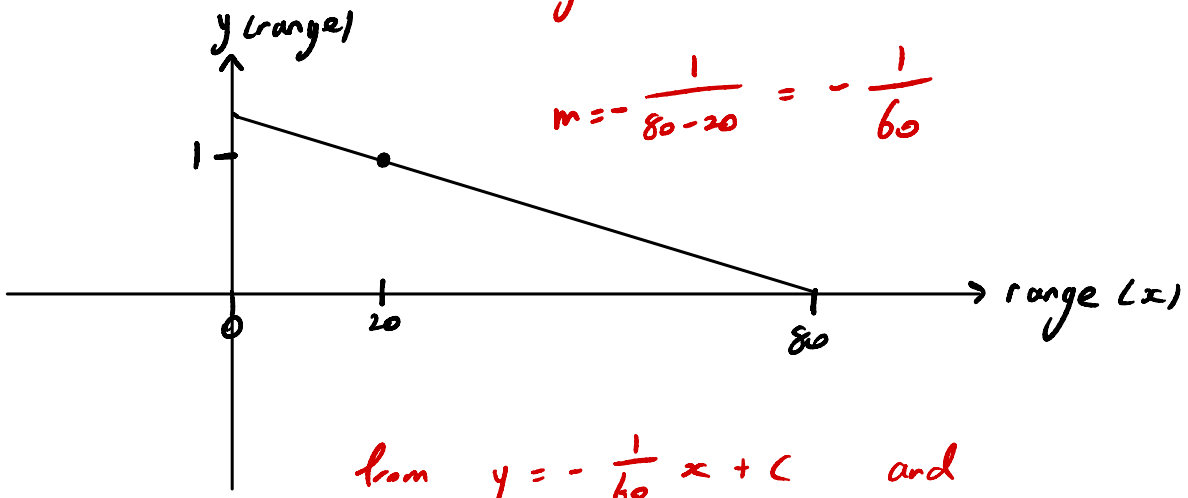
and we use

```
rightOutputB = constrain(rightOutputB - y rightOutputB, 0, 255);
```

then we need y to be a function of range, y(range), where $y(20) = 1$, $y(range < 20) > 1$ and

$$0 < y(20 < range < 80) < 1$$

$y = mx + c$



$$m = -\frac{1}{80-20} = -\frac{1}{60}$$

from $y = -\frac{1}{60}x + c$ and $y(20) = 1$:

$$1 = -\frac{1}{3} + c \quad \text{so} \quad c = \frac{4}{3}$$

$$\therefore \quad y = -\frac{1}{60}x + \frac{4}{3}$$

so $y = -\frac{1}{60}(range) + \frac{4}{3}$ for the above conditions.