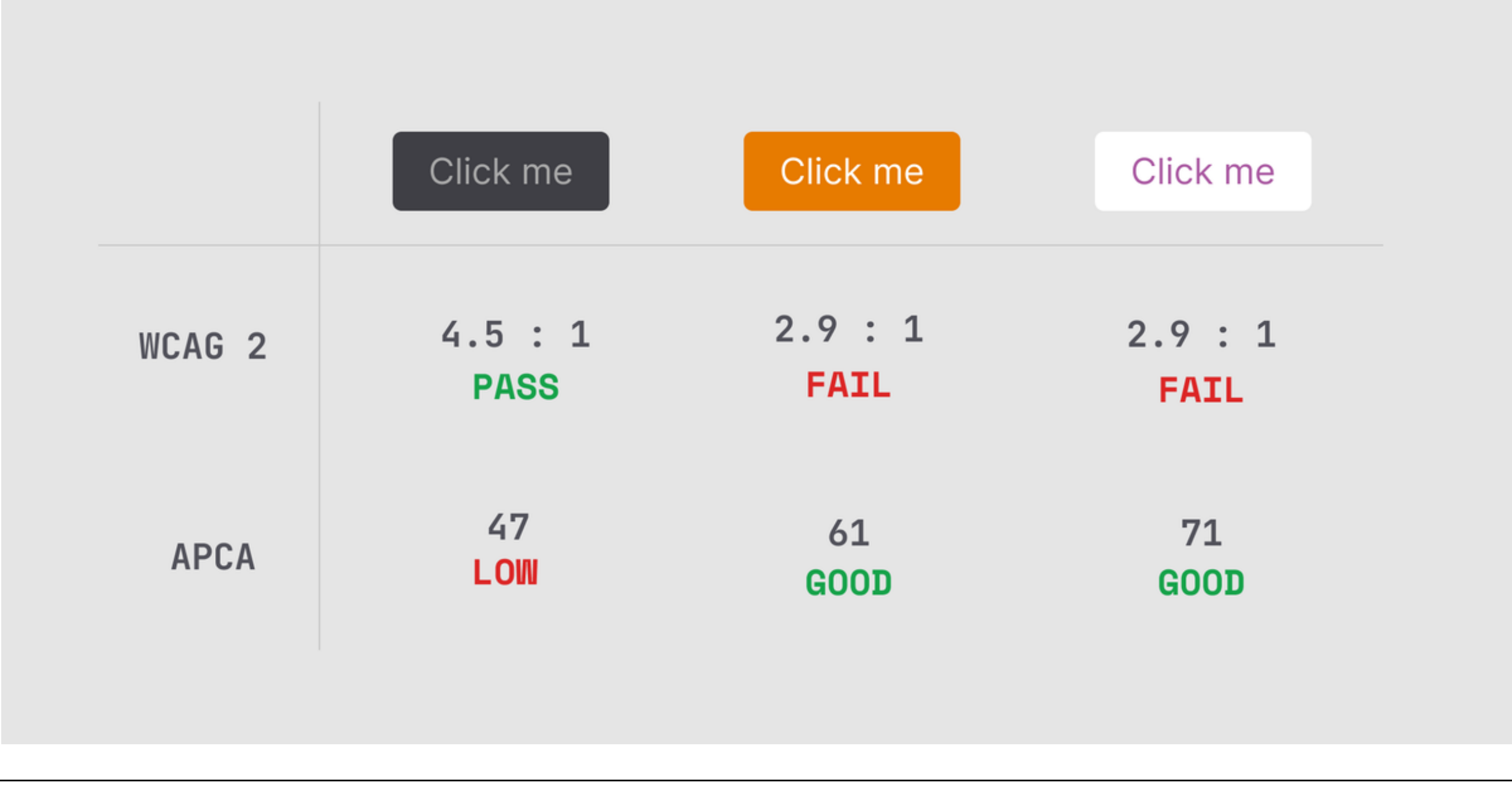


This thread was posted on twitter on Dec 9, 2021 by @DanHollick

WCAG 3 will use a new color contrast method called APCA (Advanced Perceptual Contrast Algorithm).

It's a big improvement over the current system but there are a lot of changes to get your head around.

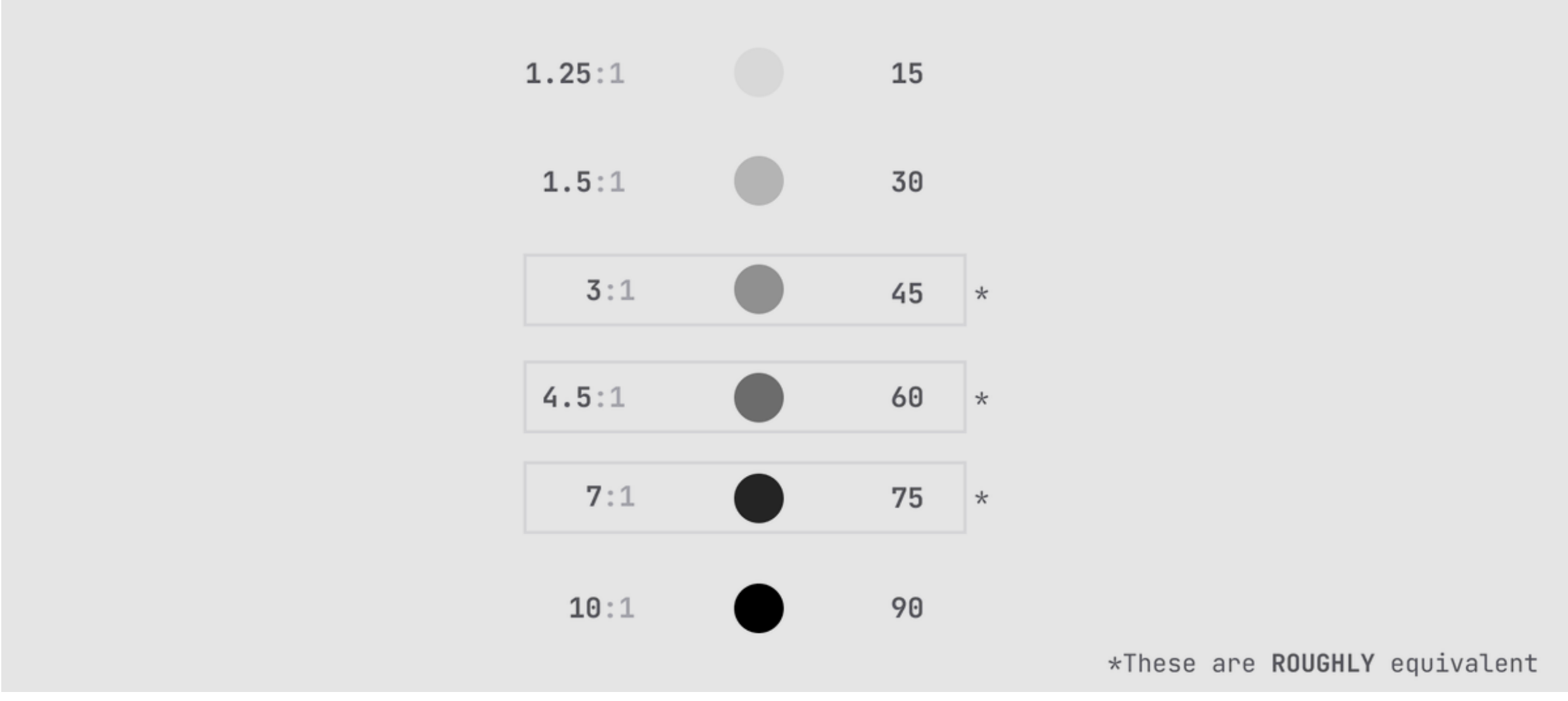


	WCAG 2	4.5 : 1 PASS	2.9 : 1 FAIL	2.9 : 1 FAIL
APCA		47 LOW	61 GOOD	71 GOOD

1. The most obvious change is the new scoring system.

The ratios are replaced by a level out of 100(ish).

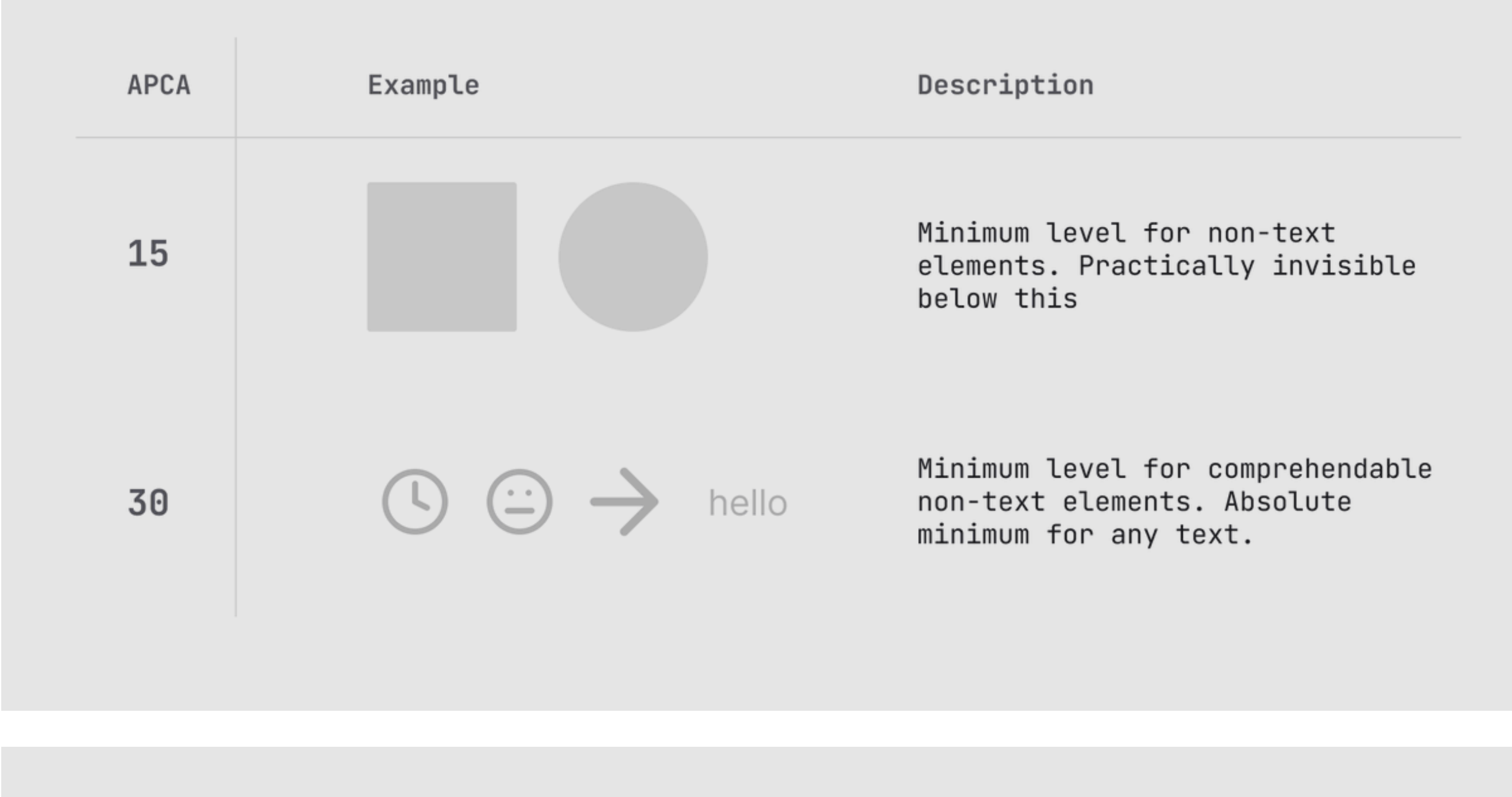
The higher the number, the higher the contrast.



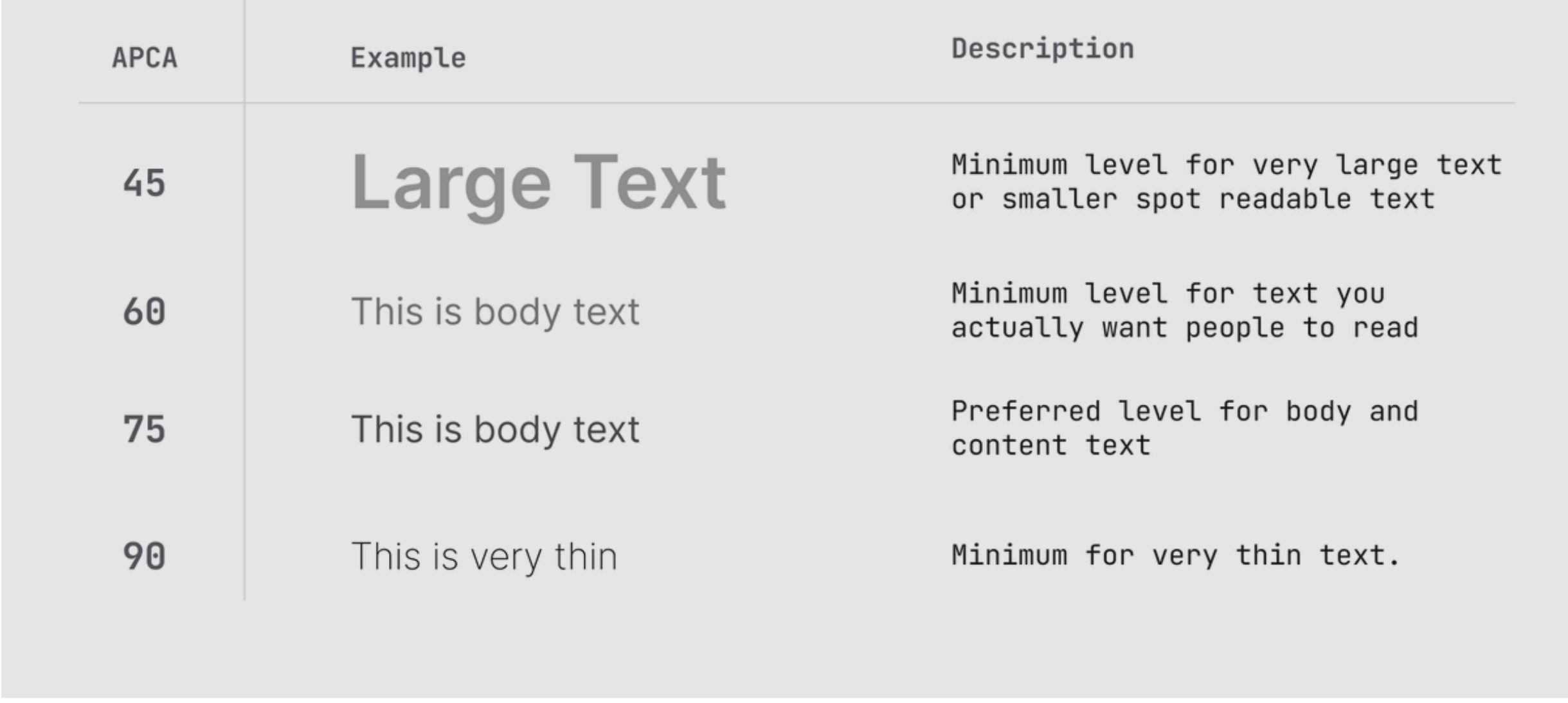
*These are ROUGHLY equivalent

Here's what they mean:

- 15 - 🚫 Minimum for non-text elements
- 30 - ⚠️ Absolute min for any text
- 45 - ❗ Min for large text (the old 3:1)
- 60 - ❗ Min for body text (the old 4.5:1)
- 75 - ✅ Preferred level for body text



APCA	Example	Description
15		Minimum level for non-text elements. Practically invisible below this
30	 hello	Minimum level for comprehensible non-text elements. Absolute minimum for any text.

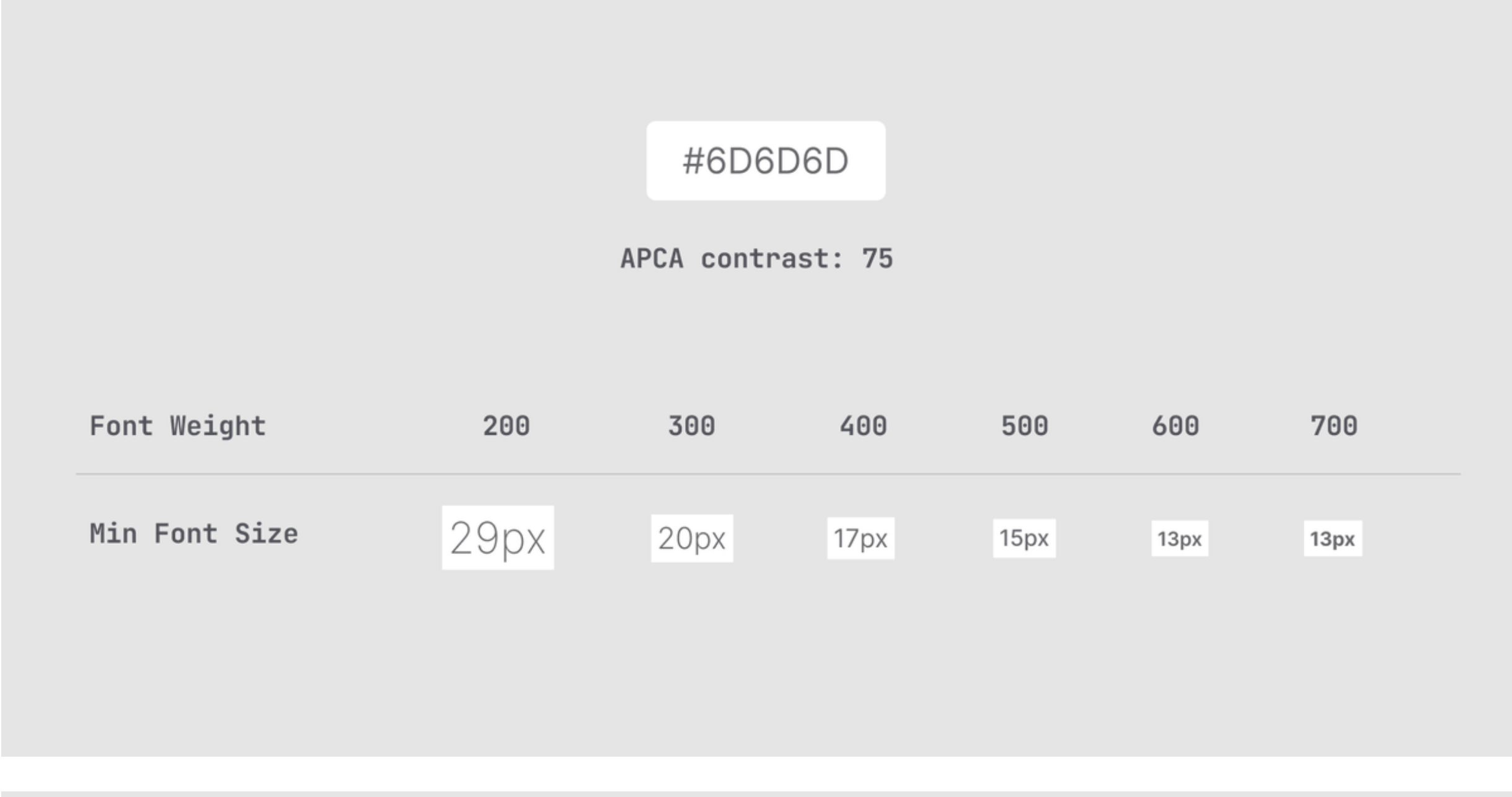


APCA	Example	Description
45	Large Text	Minimum level for very large text or smaller spot readable text
60	This is body text	Minimum level for text you actually want people to read
75	This is body text	Preferred level for body and content text
90	This is very thin	Minimum for very thin text.

2. The new standard takes text size and weight into account.

The score changes depending on the size and weight - meaning much less guess work for you.

The thinner the font, the worse the score.



Font Weight	200	300	400	500	600	700
Min Font Size	29px	20px	17px	15px	13px	13px



Font Weight	200	300	400	500	600	700
Min Font Size	47px	30px	21px	17px	15px	13px

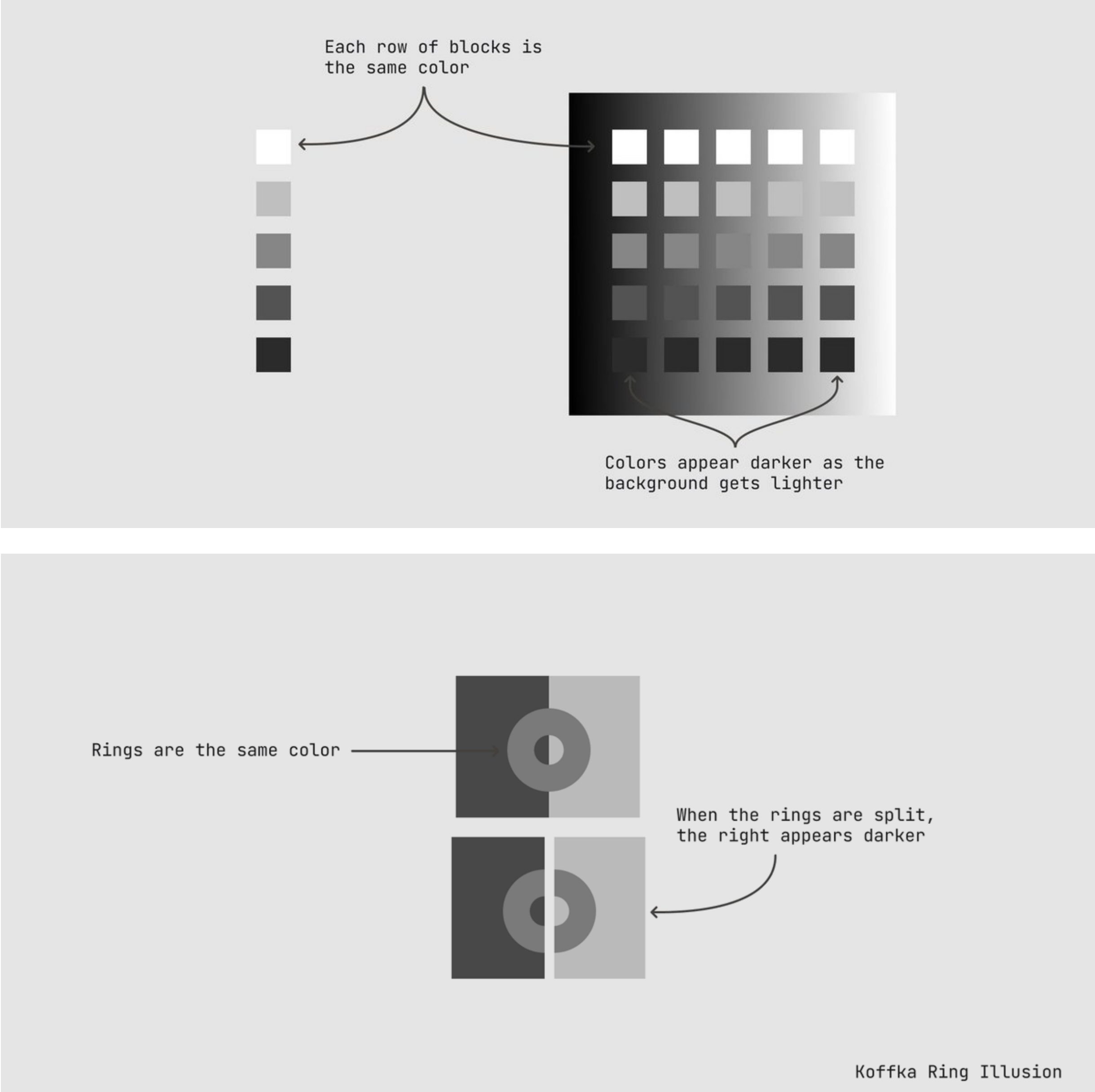
3. Unlike WCAG 2, swapping text and background color affects the result.

This makes sense when you think about it - text has a lower visual area and thus lower contrast.

4. The APCA contrast calculation is perceptually uniform.

Humans don't perceive contrast linearly across hue and lightness and APCA takes this into account.

WCAG 2 modelled contrast mathematically.



Koffka Ring Illusion

This takes care of those weird issues WCAG 2 would struggle with, like orange buttons.



	WCAG 2	4.5 : 1 PASS	4.5 : 1 PASS
APCA		47 LOW	77 PERFECT



	WCAG 2	2.9 : 1 FAIL	2.9 : 1 FAIL	2.9 : 1 FAIL
APCA		61 GOOD	71 GOOD	60 GOOD

tl:dr

WCAG 3 will make your life easier as a designer. It isn't out yet but you can (and should) use APCA now.

@MyndexResearch has a great tool here:
myndex.com/APCA/simple

Also their piece explaining the benefits of APCA is great reading:
github.com/Myndex/SAPC-AP...

Other tools are starting to use APCA, including hueitone by @ardovalexey
hueitone.ardov.me

If you want to read a bit more about the problems with WCAG 2, I made a tweet thread about that here:
<https://twitter.com/DanHollick/status/1417895151003865090>

Note: In my exporting and cleaning up of this thread from twitter, via Thread reader, I found conflicting post dates. Dec 9 vs Dec 10. I've opted to keep the date from Thread Reader because twitter is, now famously, unreliable. Twitter also said this was posted at 1:00 am, but I'm guessing that's something to do with localisation, so chose to omit that too.