



accidents don't have to happen

Safer by Design

Where the numbers come from

Statistics and methodology

November 2019

The Royal Society for the Prevention of Accidents



Health and Safety risks in buildings

Table 11 Risk index categories for domestic health and safety hazards

Domestic Health and Safety Hazard	Category	Risk Index	
Hygrothermal conditions	A	83	
Slips, trips and falls on the level		78	
Particles and fibres		78	
Radon		78	
Environmental tobacco smoke		72	
Slips, trips and falls on stairs, ramps and escalators		71	
Security and the effects of crime		B	70
Noise	70		
House dust mites	69		
Burns and scalds	68		
Fires in buildings	67		
Carbon monoxide	66		
Fungal growth	62		
Lighting	62		
Space and crowding	62		
Lead	61		
Slips, trips and falls from windows, balconies and roofs	C		60
Oxides of nitrogen			60
Toilet facilities		60	
Volatile organic compounds		59	
Collision/entrapment involving doors		59	
Sources of infection other than toilets		58	
Electrical hazards		56	
Drowning		56	
Collision/entrapment involving windows	D	50	
Sulphur dioxide		50	
Cockroaches		48	
Structural collapse and falling objects		48	
Explosions in buildings		48	
Land contamination including landfill gas		41	
Biocides		26	
Collision/entrapment involving lifts and escalators		14	
Electromagnetic fields		NBHA	

Review of Health and Safety Risk Drivers (2008) BD 2518

Key to the risk categories

- A Highest risk category
- B Second risk category
- C Third risk category
- D Fourth risk category
- NBHA No Basis for Risk Assessment

<http://webarchive.nationalarchives.gov.uk/20120919132719/www.communities.gov.uk/publications/planningandbuilding/reviewhealthsafety>

Table 25: Likelihood values for each hazard at each level of risk

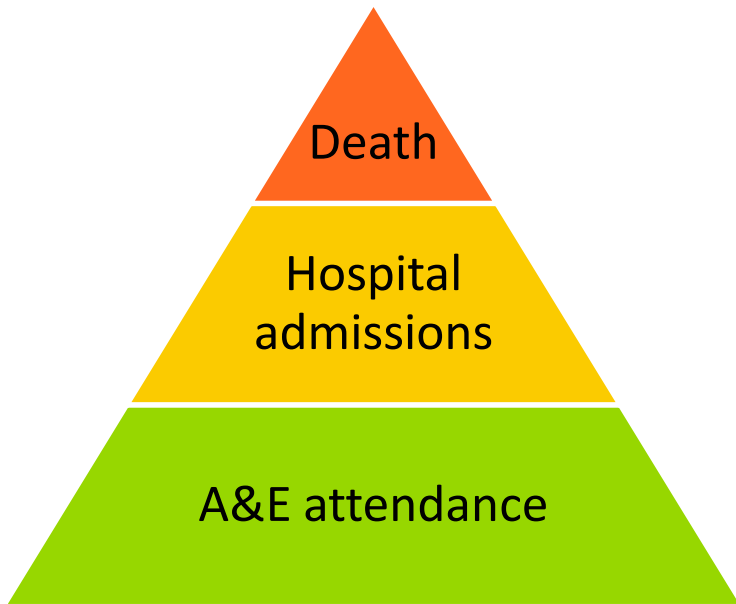
Hazard	Likelihood values			
	Category 1	Actionable	Average	Building Regulations 2010
Excess cold	56	744	2,152	36,541
Falls associated with stairs and steps*	32	66	245	256
Falls on the level	18	49	135	160
Falls between levels*	6	15	1,693	2,132
Fire*	56	164	4,760	5,704
Collision and entrapment*	2	5	39	42
Falls associated with baths etc*	18	53	4,026	4,026
Damp and mould growth	2	10	464	500
Hot surfaces and materials*	6	15	182	230
Lead	5	9	58,400	180,000
Entry by intruders	2	10	40	100
Radiation	910	1,020	10,000	40,000
Personal hygiene, sanitation and drainage	0	19	7,750	34,040
Food safety	0	19	4,060	20,270
Domestic hygiene, pests and refuse	4	3	5,585	5,585
Crowding and space	155	311	8,000	8,000
Noise	2	9	900	1,000
Carbon monoxide and fuel combustion products	2	3	1,250	1,250
Structural collapse and failing elements	6	13	11,170	14,704
Electrical hazards	20	59	16,069	16,069
Position and operability of amenities (ergonomics)	0	15	12,025	17,679
Uncombusted fuel gas	27	55	83,784	180,000
Lighting	6	11	50,825	50,825
Water supply for domestic purposes	5	9	1,423,649	4,114,406
Excess heat	326	652	900,000	190,000
Explosions	114	229	156,628	156,628

* Different spread of harms for HHSRS Category 1 hazards only.

- Consider hazards where BR 2010 likelihood:
 - Likelihood > 1:5,000
 - Accidental injury related

Table 25, from FB81 The Full cost of poor housing
<https://www.brebookshop.com/details.jsp?id=327672>

How can we measure them (available evidence)



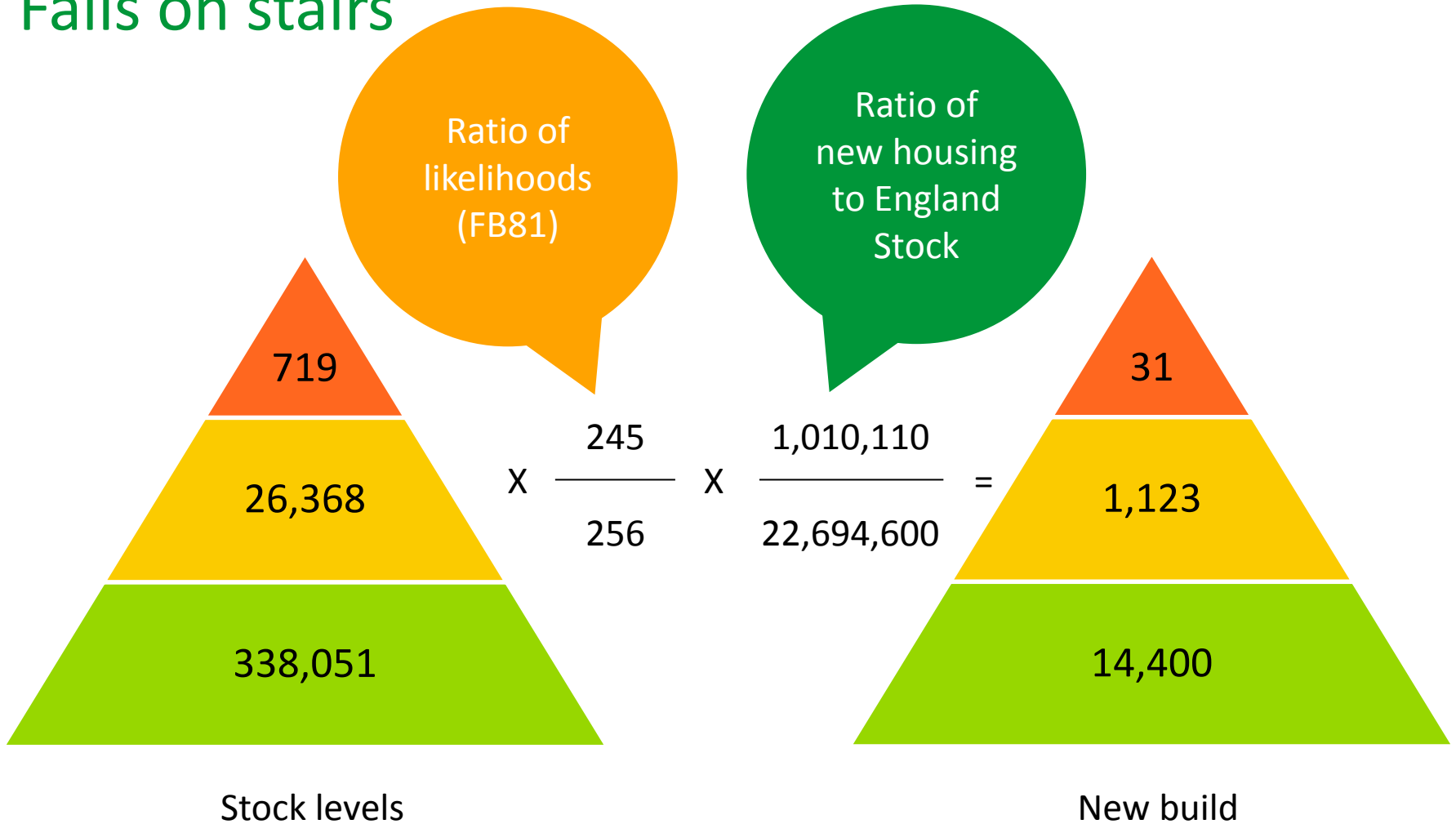
● Levels of harm

- Deaths per annum (ONS, 2016)
- Hospital admissions (HES, 2016)
- Visits to A& E (HASS approximation)

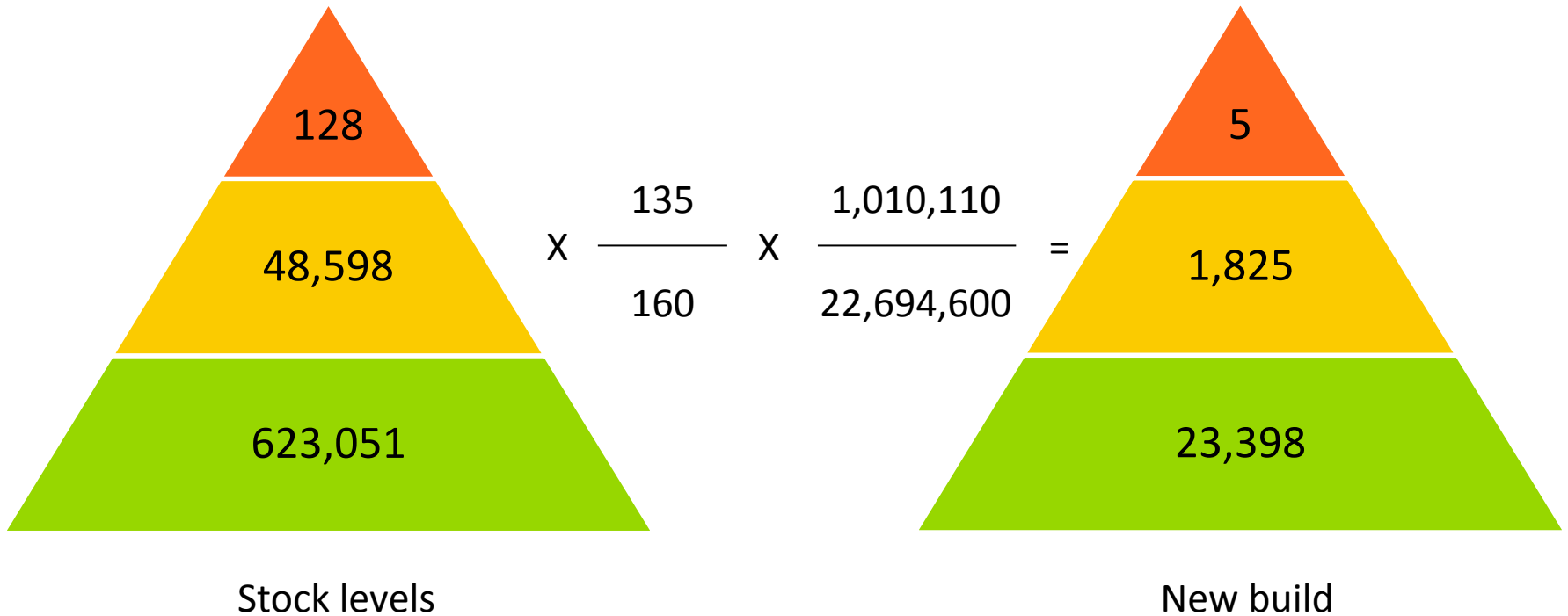
● Average to New build

- Different likelihood
- Changing spread of harms
- Smaller number on homes
- New risks introduced

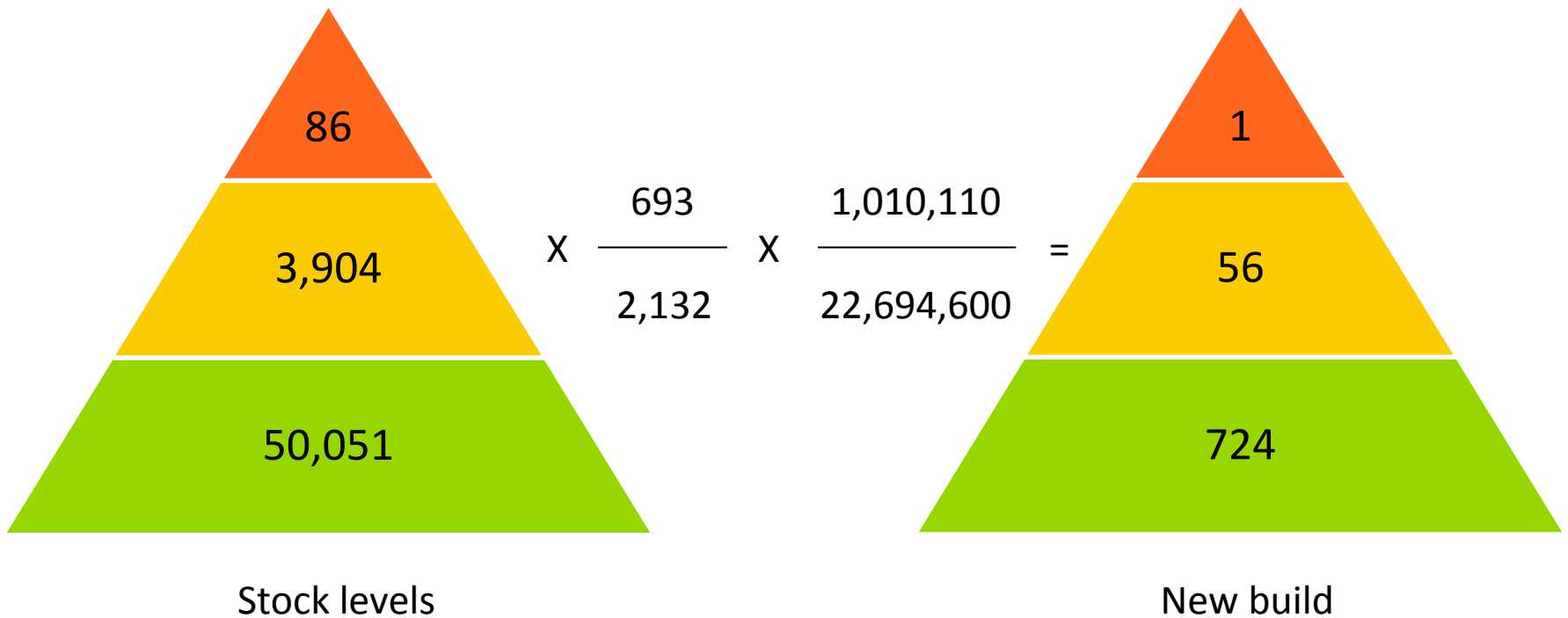
Falls on stairs



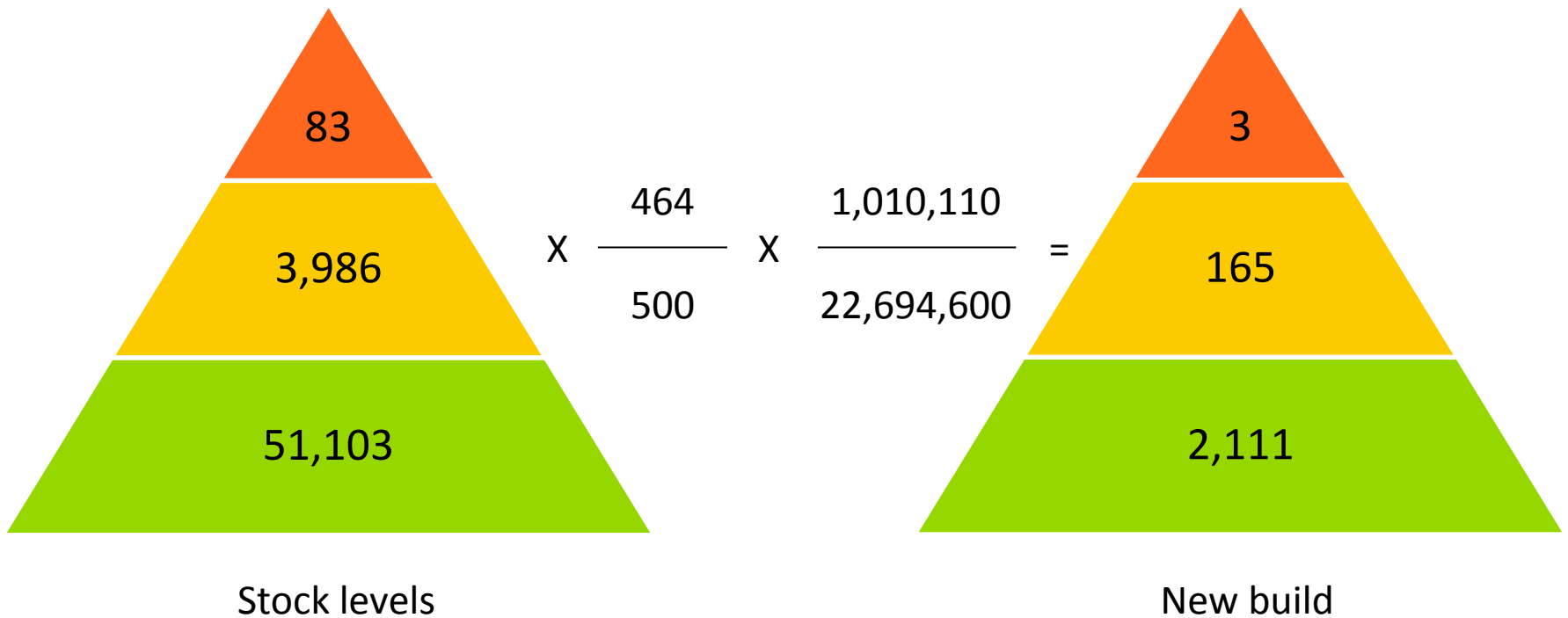
Falls on the level



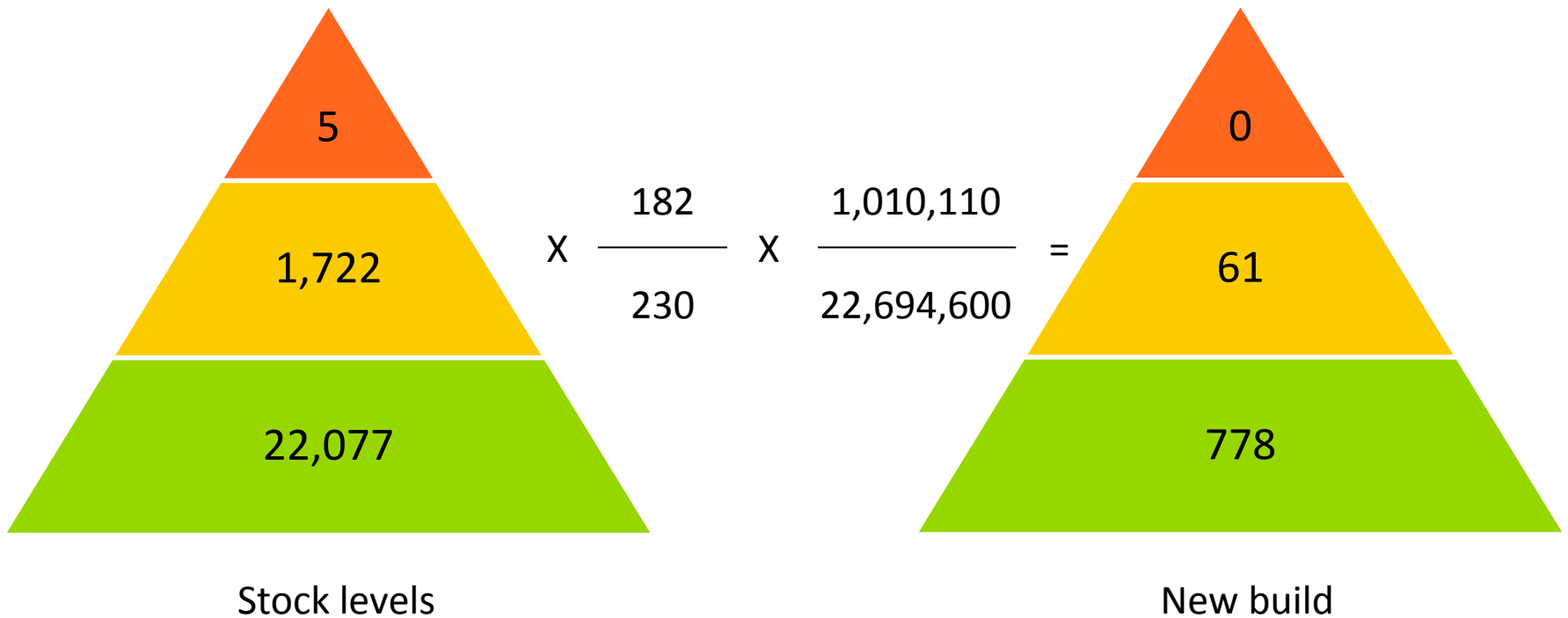
Falls between levels



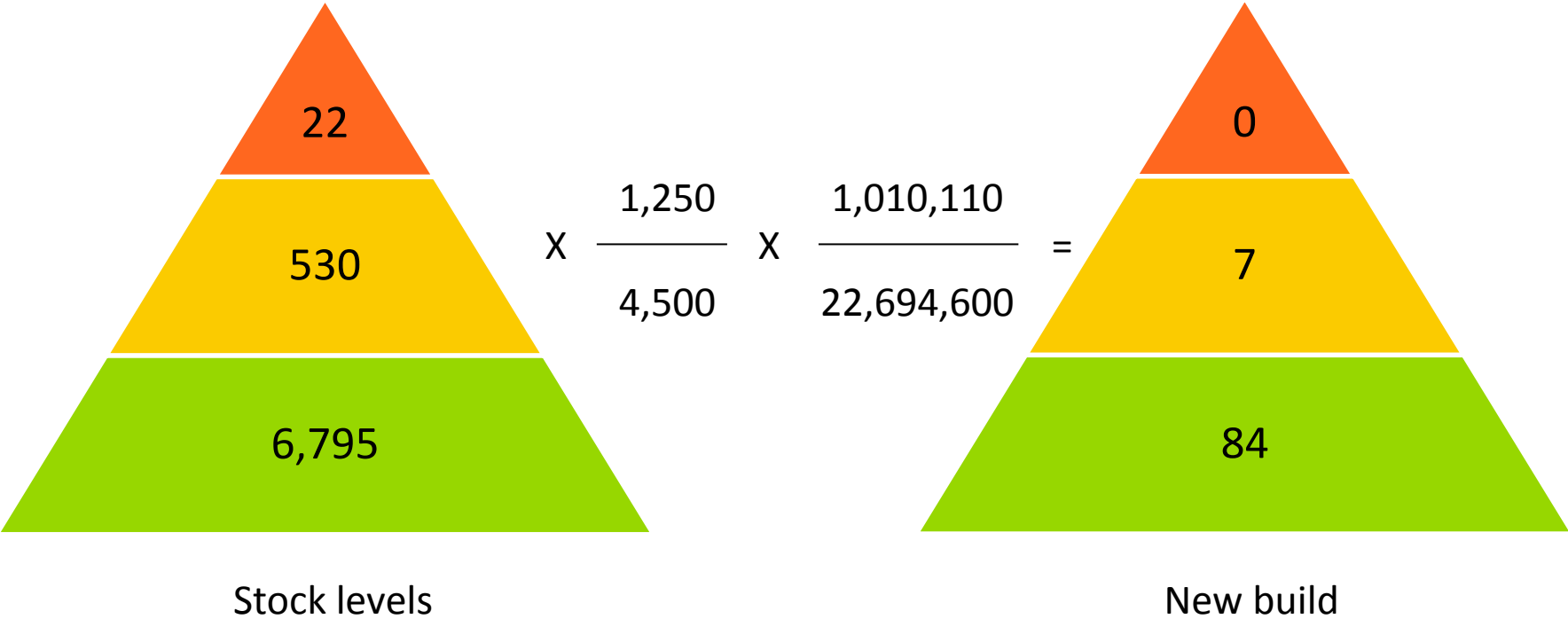
Falls in bathrooms (estimate)



Burns – Hot surfaces



Carbon Monoxide Poisoning



Entrapment in doors

