

THE HONG KONG POLYTECHNIC UNIVERSITY  
HONG KONG COMMUNITY COLLEGE

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**Subject Title** : Mathematics in Design Context      **Subject Code** : CCN1055

**Session** : Semester Two, 2017/18

**Numerical Answers**

**Question B1**

(b)

Class	Frequency	Relative Frequency	Percent Frequency
Red	3	0.15	15
Green	4	0.20	20
Blue	6	0.30	30
Yellow	7	0.35	35

**Question B2**

- (a) 0.0918  
(b) 0.0174

**Question B4**

a = 186.391 m  
b = 115.109 m

$a/b = 1.619$

Difference = 0.001

**Question B5**

- (b) 10.8 m

**Question C1**

- (a) Sample mean = 43.05  
Standard deviation = 16.172  
(b) 15 – 29.5 – 48.5 – 55.5 – 66  
(c) 37.566 %  
(d) 42.5  
(e) 87.5 %

**Question C2**

- (b) Stage 3 – 9  
Stage 4 – 27
- (d)  $T(n) = 3^{n-1}$
- (e) Stage 3 = 9/64  
Stage 4 = 27/256
- (f)  $S(n) = 1 - \left(\frac{3}{4}\right)^n$
- (g) 1

**Question C3**

- (a) 315.6 g - 394.4 g
- (b) 394.2 g - 435.8 g
- (c) 314 cm<sup>2</sup>
- (d) 471cm<sup>2</sup>
- (e) 50.24cm<sup>2</sup>
- (f) 55.56 cm<sup>2</sup>
- (g) 251.2cm<sup>2</sup>