

ERRATA

MATHEMATICS FOR THE INTERNATIONAL STUDENT MATHEMATICAL STUDIES SL (3rd edition)

Third Edition - 2018 reprint

The following errata were made on 18/Jul/2018

page 50 CHAPTER 2 SECTION E, remove demo icon.

page 214 CHAPTER 7 SECTION A, remove demo icon.

The following errata were made on 22/Mar/2018

page 310 CHAPTER 10 INVESTIGATION 2, title and first equation should read:

INVESTIGATION 2

THE STANDARD NORMAL DISTRIBUTION (Z -DISTRIBUTION)

The **standard normal distribution** or **Z -distribution** is the normal distribution with mean 0 and standard deviation 1. We write $Z \sim N(0, 1)$.

Every normal X -distribution can be **transformed** into the Z -distribution using the transformation

$$Z = \frac{X - \mu}{\sigma}$$

← subtracting μ shifts the mean to 0
← dividing by σ scales the standard deviation to 1

page 311 CHAPTER 10 INVESTIGATION 2, step 1 should read:

What to do:

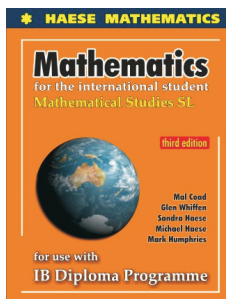
1 Use your calculator to find:

a $P(0 \leq Z \leq 1)$

b $P(1 \leq Z \leq 2)$

c $P(1 \leq Z \leq 3)$

Have you seen these values before?



ERRATA

MATHEMATICS FOR THE INTERNATIONAL STUDENT MATHEMATICAL STUDIES SL (3rd edition)

Third Edition - 2015 reprint

The following erratum was made on 27/Mar/2017

page 205 **CHAPTER 6 INVESTIGATION 5, HEART STOPPERS** table should include ranges for l as low as 3.0:

What to do:

- 1 Use the data to complete the table:

Cholesterol level	Before the experiment	25 participants taking the drug	25 participants taking the placebo
$3.0 \leq l < 3.5$			
$3.5 \leq l < 4.0$			
$4.0 \leq l < 4.5$			
$4.5 \leq l < 5.0$			
$\vdots$			
$8.5 \leq l < 9.0$			

The following erratum was made on 14/Nov/2016

page 311 **CHAPTER 10 INVESTIGATION 2, USING THE Z-DISTRIBUTION** should have correct axis label on diagram:

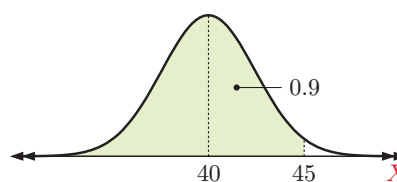
USING THE Z-DISTRIBUTION

The Z -distribution is useful when finding an unknown mean or standard deviation for a normal distribution.

For example, suppose X is normally distributed with mean 40, and $P(X \leq 45) = 0.9$.

We can find the standard deviation as follows:

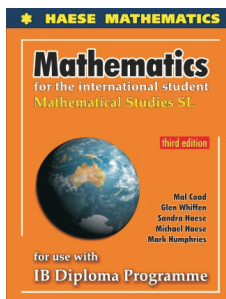
$$P(X \leq 45) = 0.9$$



The following erratum was made on 1/Aug/2016

page 669 **ANSWERS REVIEW SET 6C, Question 7 c ii** should read:

- 7 c i Brand Y, as the median is higher.
- ii Brand Y, as the IQR is lower, so less variations.



ERRATA

MATHEMATICS FOR THE INTERNATIONAL STUDENT MATHEMATICAL STUDIES SL (3rd edition)

2012 Third Edition

The following errata were made on or before 12/Oct/2015

page 4 **ACKNOWLEDGEMENTS**, should include:

Support material: Marjut Mäenpää

page 46 **SECTION 2.D**, replace URL at the bottom of the page with:

For more information on SI units, visit www.bipm.org/en/publications/si_brochure/

page 110 **EXERCISE 4H.2**, Question **1 c** should be:

$$\mathbf{c} \quad \begin{cases} y = \frac{1}{2}x - 3 \\ y = \frac{9}{2} - 2x \end{cases}$$

page 226 **EXAMPLE 12**, First paragraph should read:

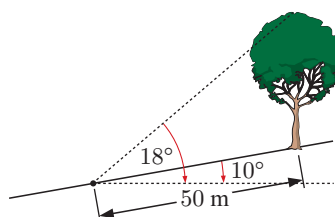
A platform diving squad of 25 has 18 members who dive from 10 m and 17 who **dive** from 4 m.
How many dive from both platforms?

page 344 **EXAMPLE 8**, Fourth line of the solution should read:

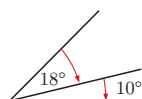
The 2×2 contingency table is:

The expected frequency table is:

page 480 **REVIEW SET 15B**, Question **9** diagram should be:



*The answer printed in the back for this question used this interpretation of the image:



page 647 **MISCELLANEOUS PROBLEMS 22B**, Question **34 e** should read:

e Determine the dimensions x and h which maximise the volume of the cuboid.

*Also the answer should be h instead of y

page 660 **ANSWERS EXERCISE 4G.2**, Answer **1 b ii** should read:

b i $s = 2$ ii $s = -4$ iii $s = 2.4$

page 660 **ANSWERS EXERCISE 4H.1**, Answer **2 d** should read:

d $x = 0$, $y = 1.5$

EXERCISE 5F.1

- 1 \$6945.75 2 a £17 496 b £2496
 3 a ¥1 284 045 b ¥404 045 4 £13 373.53
 5 \$546.01 6 Bank A

EXERCISE 5F.2

- 2 £6629.65 3 \$4079.77 4 €4159.08 5 ¥199 713
 6 \$20 836.86 7 €80 000 8 2 years 5 months
 9 2 years 9 months 10 13 years 3 months 11 14.5% p.a.
 12 6.00% p.a. 13 5.25% p.a.

EXERCISE 5G

- 1 €1280 2 a €26 103.52 b €83 896.48
 3 a ¥30 013 b ¥57 487 4 24.8% 5 18.4%

page 663 ANSWERS REVIEW SET 5C, Question 13 should be:

- 11 €9838.99 12 £13 125.36 13 $\approx 13.3\%$

page 663 ANSWERS EXERCISE 6B, Question 2 c should read:

- b 1 and 2 c positively skewed, one outlier, (9 students)

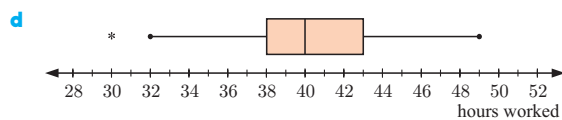
page 667 ANSWERS EXERCISE 6H, Question 1 e should read:

- 1 d ≈ 23 students e ≈ 75 marks

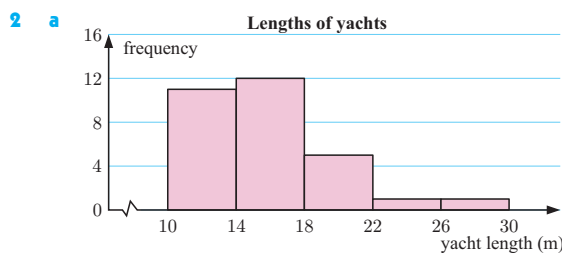
page 667 ANSWERS EXERCISE 6I.1, should read:

- 1 a ≈ 1.49 b ≈ 4.73
 2 mean = 55 L, standard deviation ≈ 10.9 L
 3 mean ≈ 1.69 kg, standard deviation ≈ 0.182 kg
 4 a $\bar{x} = 169$ cm, $s \approx 6.05$ cm b $\bar{x} = 174$ cm, $s \approx 6.05$ cm
 c The distribution has simply shifted by 5 cm. The mean increases by 5 cm and the standard deviation remains the same.
 5 a $\bar{x} = 1.01$ kg; $s = 0.17$ kg b $\bar{x} = 2.02$ kg; $s = 0.34$ kg
 c Doubling the values doubles the mean and standard deviation.
 6 a ≈ 0.809 b 2.8, from volunteer F c ≈ 0.150
 d the extreme value greatly increases the standard deviation

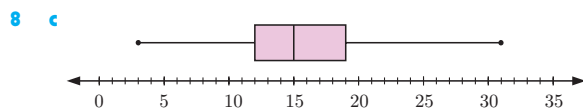
page 668 ANSWERS EXERCISE 6I.2, Question 6 d should have a labelled axis:



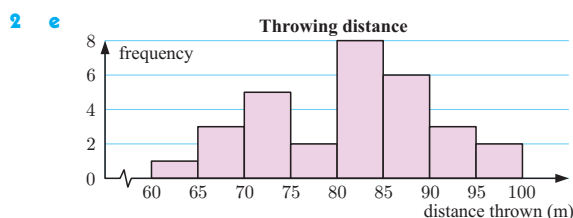
page 668 ANSWERS REVIEW SET 6A, Question 2 a graph should have a title:



page 668 ANSWERS REVIEW SET 6A, Question 8 c boxplot should look like:



page 668 ANSWERS REVIEW SET 6B, Question 2 e graph should have a title:



page 678 **ANSWERS REVIEW SET 8B**, Question **4 b** should read:

- 4** **a** It is neither. **b** x is zero or a positive rational number.

page 678 **ANSWERS REVIEW SET 8C**, Question **7 b** should read:

- 2 b** p : Viv is a judge. q : Viv wears a robe.
 r : Viv wears a wig.
 $(p \Rightarrow (q \vee r)) \wedge (\neg r \wedge \neg p) \Rightarrow \neg q$
Argument is not valid.

page 680 **ANSWERS EXERCISE 9G.3**, Question **6** should read:

- 6** \$4.75

page 682 **ANSWERS REVIEW SET 10A**, Question **7** should read:

- 6** **a** 6.68% **b** 137 bags **7** 162 seconds

page 682 **ANSWERS EXERCISE 11B.1**, Question **1** should read:

- 1** weak/moderate positive correlation

page 684 **ANSWERS EXERCISE 11C**, Question **2 e** should read:

- 2 e** At $y \approx 52$. This means that we would expect a city with no speed cameras to have approximately 52 car accidents in a week.

page 684 **ANSWERS EXERCISE 11D**, Question **1 c** should read:

- 1 c** There is a strong, positive, linear correlation between the starting salaries for Bachelor degrees and the starting salaries for PhDs.

page 685 **ANSWERS EXERCISE 11E.4**, Question **2 a** should read:

- 2 a**

	Result		
	Pass	Fail	sum
France	63.8	21.2	85
Germany	168.2	55.8	224
sum	232	77	309

page 687 **ANSWERS EXERCISE 12D**, Question **2** should read:

- 2** 46.3 m **3** Yes **4** 88.2 km

page 688 **ANSWERS EXERCISE 13B**, Question **11 b** should read:

- 11** **a** $(1, 3\frac{1}{2})$ **b** 5.85 m

page 688 **ANSWERS EXERCISE 13E**, Question **3** should read:

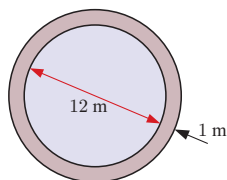
- 3** 17.6 cm

page 689 **ANSWERS EXERCISE 13E**, Question **8 b** should read:

- 8** **a** No tax is paid on incomes of \$6000 or less.
b gradient of AB ≈ 0.33 , gradient of BC = 0.35
These represent the tax rates for the brackets \$6k - \$15k and \$15k - \$42k respectively (in cents per dollar earned).

page 693 **ANSWERS EXERCISE 14E.2**, Question **5 a** should have 12 m diameter (not radius):

- 5 a**



- b** 40.8 m²
c 4.08 m³

page 693 **ANSWERS EXERCISE 14H**, Question **1 d** should read:

- 1** **a** Slant height ≈ 1.06 m
b Hemisphere surface area ≈ 4.02 m² **d** ≈ 3890 kg

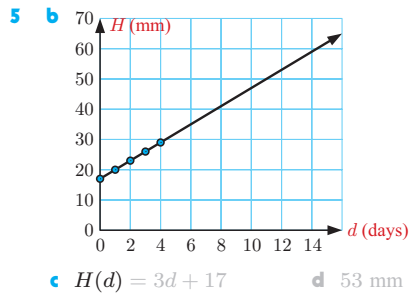
page 694 **ANSWERS REVIEW SET 15B**, Question **9** should read:

8 a 275 m **b** 2.86 ha **9** 7.32 m

page 695 **ANSWERS REVIEW SET 15C**, Question **5 a** should read:

5 a VS **b** $\widehat{XST}$ **c** $\widehat{WUS}$ **6** a 58.4° **b** 68.3°

page 696 **ANSWERS REVIEW SET 16C**, Question **5** should read:



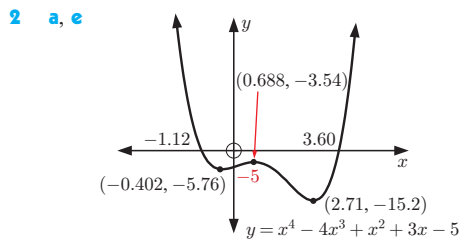
page 697 **ANSWERS EXERCISE 17A**, Question **7 d** should read:

7 **d** Domain = $\{t \mid 0 \leq t \leq 16\}$

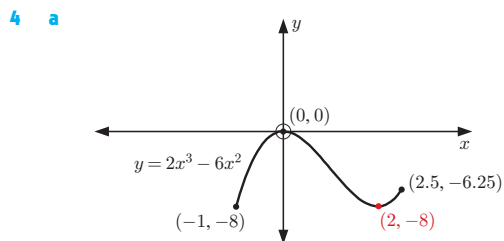
page 698 **ANSWERS EXERCISE 17C**, Question **5 k** should read:

5 **k** 1 and -0.833 (or $-\frac{5}{6}$) **l** 0.434 and -0.768

page 704 **ANSWERS EXERCISE 19A**, Question **2** should have y intercept of -5:



page 705 **ANSWERS EXERCISE 19A**, Question **4 a** should include the local minima:



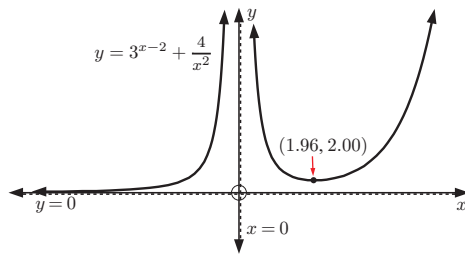
page 707 **ANSWERS EXERCISE 19C**, Question **3 e** should be in square metres:

3 **e** **i** $\approx 30 \text{ m}^2$ **ii** 32 m^2

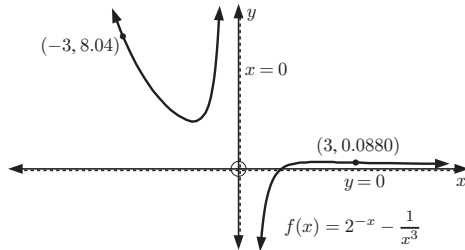
page 708 **ANSWERS EXERCISE 19E**, Questions **2 h** and **6 a** should read:

2 **g** $x \approx -0.767$, 2 or 4 **h** $x \approx -0.404$ or 0.882
6 **a** $x \approx 3.80$ **b** $-10.1 < k < 2.21$ (3 s.f.)

2 g iv



5 b



page 711 **ANSWERS REVIEW SET 20A**, Question **6** should read:

6 $y = -\frac{1}{15}x + \frac{182}{15}$ or $y \approx -0.0667x + 12.1$

page 712 **ANSWERS EXERCISE 21A**, Question **2 k iii** should read:

2 k iii increasing: $x \leq -2.62$, $x \geq -0.382$,
decreasing: $-2.62 \leq x \leq -0.382$

page 714 **ANSWERS EXERCISE 21C.1**, Question **3 b** should read:

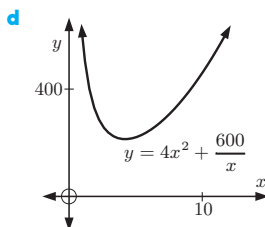
3 b $B'(3) = 31.8$ thousand per day

page 714 **ANSWERS EXERCISE 21D.1**, Questions **8 d** and **e** should be swapped:

8 a $2x$ cm

b $V = 200 = 2x \times x \times h$

c Hint: Show $h = \frac{100}{x^2}$ and substitute into the surface area equation.



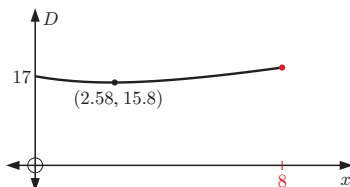
e $\frac{dA}{dx} = 8x - \frac{600}{x^2}$,
 $\frac{dA}{dx} = 0$ when $x \approx 4.22$
f $SA_{\min} \approx 213 \text{ cm}^2$

page 715 **ANSWERS EXERCISE 21D.2**, Questions **2** and **5 d** should note the intervals in which x lies:

2 a $AP = (8 - x) \text{ m}$, $BP = \sqrt{x^2 + 16} \text{ m}$, $CP = \sqrt{x^2 + 25} \text{ m}$

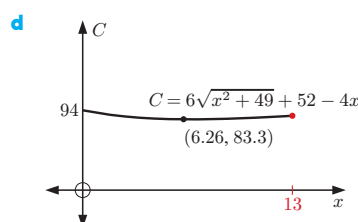
b $D = 8 - x + \sqrt{x^2 + 16} + \sqrt{x^2 + 25}$, $0 \leq x \leq 8$

c **d** 2.58 metres from N



5 b $(13 - x) \text{ km}$

e 6.26 km from P



page 716 **ANSWERS REVIEW SET 21C**, Question **3 b** should read:

- 3 b** **i** €9.10 per hour per km h^{-1}
ii €7.50 per hour per km h^{-1}

page 716 **ANSWERS EXERCISE 22A**, Questions **5 b**, **14 b** and **21 a ii** should read:

- 5 a** ≈ 26 cm
c 26 cm

b

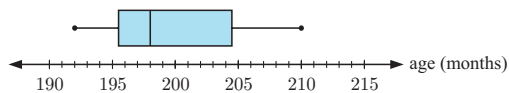
Length (cm)	Frequency
$0 < x \leq 10$	15
$10 < x \leq 20$	40
$20 < x \leq 30$	75
$30 < x \leq 40$	50
$40 < x \leq 50$	20

- 14 a** €11 737 **b** £212 462.09

- 21 a** **i** 2004.38 yuan **ii** 1974 yuan **b** €604.38

page 717 **ANSWERS EXERCISE 22A**, Question **33 b** should read:

33 b



page 723 **ANSWERS EXERCISE 22B**, Question **34 e** should read:

- 34 d** $\frac{dV}{dx} = 1200 - \frac{3}{4}x^2$ **e** $x = 40$, $h = 20$ **f** $32\,000 \text{ cm}^3$

page 724 **ANSWERS EXERCISE 22B**, Question **46 g** and **51 a i** should read:

- 46 g** $y = -\frac{1}{4}x + \frac{3}{2}$

- 51 a** **i** x -intercepts are -1.21 , 3.75 , and 6.24 ,
 y -intercept is -11

