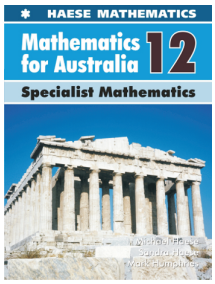


ERRATA

MATHEMATICS FOR AUSTRALIA 12

Specialist Mathematics

First edition - 2017 initial print

The following errata were made on 13/Nov/2017

page 317 **ANSWERS EXERCISE 5E** Question **3**, should read:

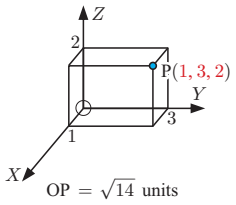
3 $\overrightarrow{QS} = 2\overrightarrow{PR}$, PR : QS = 1 : 2

page 318 **ANSWERS EXERCISE 5I.1** Question **8 d**, should not be a vector:

8 **a** $\mathbf{a} \times \mathbf{b}$ **b** $\mathbf{0}$ **c** $2(\mathbf{b} \times \mathbf{a})$ **d** 0

page 318 **ANSWERS REVIEW SET 5A** Question **1 a**, point coordinates should read:

1 **a**



OP $= \sqrt{14}$ units

The following errata were made on 31/Aug/2017

page 201 **EXERCISE 7B** Questions **9 a** and **f**, should read:

9 Find:

a $\displaystyle\int_{-\frac{\sqrt{3}}{2}}^{\frac{\sqrt{3}}{2}} \frac{1}{\sqrt{1-x^2}}\,dx$ **b** $\displaystyle\int_{0}^{\frac{1}{2}} -\frac{2}{\sqrt{1-x^2}}\,dx$

c $\displaystyle\int_{1}^{\sqrt{3}} \frac{3}{1+x^2}\,dx$ **d** $\displaystyle\int_{-\sqrt{3}}^{0} \frac{5}{\sqrt{4-x^2}}\,dx$

e $\displaystyle\int_{-3}^{\sqrt{3}} \frac{6}{9+x^2}\,dx$ **f** $\displaystyle\int_{-1}^{0} -\frac{1}{\sqrt{2-x^2}}\,dx$

The following errata were made on 26/Jul/2017

page 302 **ANSWERS EXERCISE 1B** Question **8 d**, hint should read:

8 **d** **Hint:** Show that $(A_{k+1})^2 - 3(B_{k+1})^2 = (A_k)^2 - 3(B_k)^2$ for any positive integer k.

page 302 **ANSWERS EXERCISE 2C** Question **2 b**, should have only one solution:

2 **a** $a = 2,\ b = -2$ or $a = -2,\ b = 2$
b $a = 2,\ b = -1$

page 303 **ANSWERS EXERCISE 2G** Questions **4** and **6**, should read:

4 $a = -13,\ b = 34,$ other roots are $3 - i,\ -2 \pm \sqrt{3}$
5 $a = 3,\ P(z) = (z+3)(z+i\sqrt{3})(z-i\sqrt{3})$
6 $a = -4,\ b = 15,$ other roots are $2 - i,\ \pm i\sqrt{3}$

page 307 **ANSWERS EXERCISE 3B** Question **10 c**, should read:

10 **a** If a horizontal line cuts f more than once, a vertical line will cut its reflection in $y = x$ more than once, and so the reflection of f in $y = x$ will not be a function.

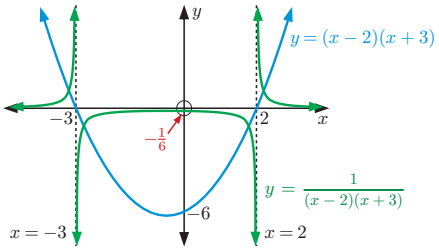
b **i** is the only one.

c **ii** Domain $= \{x \mid x \geqslant 1\}$ or $\{x \mid x \leqslant 1\}$

iii Domain $= \{x \mid x \geqslant 1\}$ or $\{x \mid x \leqslant -2\}$

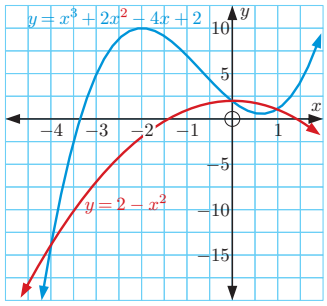
page 311 **ANSWERS REVIEW SET 3A** Question **8**, should have correct y-axis intercept:

8



page 325 **ANSWERS EXERCISE 7E** Question **2 a**, should have correct graph label:

2 **a**



page 327 **ANSWERS EXERCISE 8B** Question **14**, is not an approximation:

14 increasing at 0.128 radians per second

page 327 **ANSWERS EXERCISE 8E** Questions **1 b**, **h**, and **3 a**, should read:

1 **a** $y = \sqrt[3]{\frac{3}{2}x^2 + c}$ **b** $y = \ln(x^2 + c)$ **c** $y = Ae^{\frac{3}{2}x^2}$

d $y = \left(\frac{x^2}{2} + c\right)^2$ **e** $y = Ae^{-\cos x}$

f $y = \left(-\frac{1}{4}x^2 + c\right)^2 - 1$ **g** $y = Ax$

h $y = -\ln(c - x^3)$ **i** $y = A(x - 1) - 2$

2 **a** $y = Ae^x$ **b** $y = \pm\sqrt{2x + c}$ **c** $y = Ae^t + 4$

d $P = \left(\frac{3}{2}t + c\right)^2$ **e** $Q = Ae^t - \frac{3}{2}$ **f** $t = Q^2 + 3Q + c$

3 **a** $y = Ae^{\arctan x}$ **b** $y = Ae^{2x} + 2$

c $y = \sqrt[3]{3\ln(x^2 + 5) + c}$ **d** $y = 1 + Ae^{-\arcsin\left(\frac{x}{2}\right)}$

page 328 **ANSWERS EXERCISE 8E** Question **4 e**, should read:

4 **e** $y = \ln\left[\sqrt[4]{2x^2 + 4x + 1}\left(e^2 + 3\right) - 3\right]$

page 329 **ANSWERS EXERCISE 8J** Question **4 b**, should read:

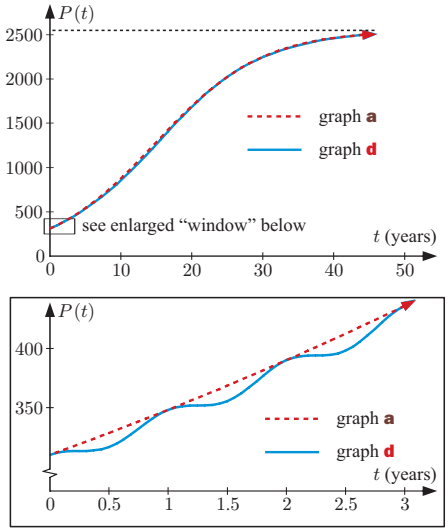
4 **b** When $x = 0$, $v^2 = k^2A^2$

$\therefore$ maximum speed $= k\,|A|$

page 331 **ANSWERS REVIEW SET 8B** Question **12 d ii**, should correctly label graph **d**:

12 d i $P = \dfrac{2550}{1 + 7.380e^{-0.133t - 0.0212\cos 2\pi t}}$

ii



The following erratum was made on 20/Mar/2017

page 260 **EXERCISE 8I** Question **3**, should use correct units:

3 An object with displacement x cm moves with acceleration $a = 12\sqrt{x}$ cm s^{-2}. The object is initially at the origin O, moving with velocity 3 cm s^{-1}.

a Show that $v^2 = 16x^{\frac{3}{2}} + 9$.

b Find the location of the object when its velocity is 5 cm s^{-1}.

c Find the speed of the object when it is 9 cm to the right of O.

The following erratum was made on 27/Feb/2017

page 66 **EXERCISE 3C** Question **2**, should read:

2 Prove that $y = \dfrac{k}{x}$ is a self-inverse function for all $k \in \mathbb{R}$, $k \neq 0$.

The following errata were made on 03/Feb/2017

page 15 **EXERCISE 1B** Question **13**, replace entirely with:

13 A sequence is defined by $t_n = 3n^2$ for $n \in \mathbb{Z}^+$. Use the principle of mathematical induction to show that $\sum_{i=1}^{n} t_i = \dfrac{n(n+1)(2n+1)}{2}$.

page 302 **ANSWERS EXERCISE 1B** Question **10 b**, replace hint with:

10 a Hint: $\cos A \sin B = \frac{1}{2}[\sin(A+B) - \sin(A-B)]$

b Hint: Use the double angle formulae.

d Hint: See hint for **a**.