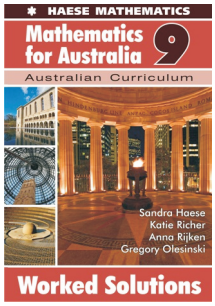


ERRATA

Mathematics for Australia 9

Worked Solutions

First edition - 2013 initial print

The following errata were made on or before 17/Feb/2016

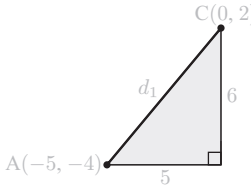
page 175 **CHAPTER 9 EXERCISE 9D,** Question **4** use correct units:

4 Area of Anya's farm $=$ length $\times$ width
$= 800 \text{ m} \times 1.2 \text{ km}$
$= 0.8 \text{ km} \times 1.2 \text{ km}$ $\{1 \text{ km} = 1000 \text{ m}\}$
$= 0.96 \text{ km}^2$
$= 0.96 \times 100 \text{ ha}$
$= 96 \text{ ha}$

and 36 hectares out of 96 hectares
$= \frac{36}{96} \times 100\%$
$= 37.5\%$ So, 37.5% of Anya's farm is sown with wheat.

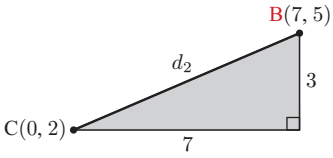
page 191 **CHAPTER 10 EXERCISE 10A.1,** Question **3 c i** diagram point should have correct label:

3 **c** **i** Let the distance from A to C be d_1 units.



$d_1^2 = 5^2 + 6^2$ {Pythagoras}
$\therefore\ d_1^2 = 25 + 36$
$\therefore\ d_1^2 = 61$
$\therefore\ d_1 = \sqrt{61}$ {as $d_1 > 0$}

Let the distance from C to B be d_2 units.



$d_2^2 = 7^2 + 3^2$ {Pythagoras}
$\therefore\ d_2^2 = 49 + 9$
$\therefore\ d_2^2 = 58$
$\therefore\ d_2 = \sqrt{58}$ {as $d_2 > 0$}

$\therefore$ distance travelled by the first plane $= d_1$ units $+ d_2$ units
$= \sqrt{61}$ units $+ \sqrt{58}$ units
≈ 15.4 units

page 289 **CHAPTER 14 EXERCISE 14B,** Question **8 e** should read:

8 **e** The manufacturer wants 95% of jars to contain between 880 and 920 peanuts.
Now, $1 + 6 + 8 + 8 + 14 + 8 + 5 + 3 = 53$ jars contain between 880 and 920 peanuts.
53 jars out of 60 jars $= \frac{53}{60} \times 100\%$
$\approx 88.3\%$
No, it is not the case for this sample.

page 170 **CHAPTER 8 Exercise 8B,** Question **1 b** should read:

1 **a** $C = 2\pi r$ where $r = 4.2$

$\therefore\ C = 2 \times \pi \times 4.2$

≈ 26.4

$\therefore$ the circumference is approximately 26.4 cm.

b $C = 2\pi r$ where $C = 112$

$\therefore\ 112 = 2\pi r$

$\therefore\ r = \dfrac{112}{2\pi}$

≈ 17.8

$\therefore$ the radius is approximately 17.8 cm.

page 224 **CHAPTER 10 EXERCISE 10E,** Question **2 h** should read:

2 **g** $x^2 + 1 = 3x$

$\therefore\ x^2 - 3x + 1 = 0$ which has

$a = 1,\ b = -3,\ c = 1$

$\therefore\ x = \dfrac{-(-3) \pm \sqrt{(-3)^2 - 4(1)(1)}}{2(1)}$

$\therefore\ x = \dfrac{3 \pm \sqrt{9-4}}{2}$

$\therefore\ x = \dfrac{3 \pm \sqrt{5}}{2}$

h $2x^2 = 2x - 3$

$\therefore\ 2x^2 - 2x + 3 = 0$ which has

$a = 2,\ b = -2,\ c = 3$

$\therefore\ x = \dfrac{-(-2) \pm \sqrt{(-2)^2 - 4(2)(3)}}{2(2)}$

$\therefore\ x = \dfrac{2 \pm \sqrt{4-24}}{4}$

$\therefore\ x = \dfrac{2 \pm \sqrt{-20}}{4}$

but $-20 < 0$ $\therefore$ no real solutions exist.

page 294 **CHAPTER 14 EXERCISE 14D.1,** Question **13** should account for months having different numbers of days:

13 **a** mean $M = \dfrac{30S + 31O + 30N}{91}$ where M, S, O, and N are temperatures in °C.

b $M = \dfrac{30S + 31O + 30N}{91}$ {from **a**}

$\therefore\ 22 = \dfrac{30 \times 18.5 + 31 \times 21 + 30 \times N}{91}$

$\therefore\ 2002 = 1206 + 30N$

$\therefore\ 796 = 30N$

$\therefore\ N \approx 26.5$

So, Perth's mean temperature during November was approximately 26.5°C.

page 306 **CHAPTER 13 EXERCISE 13D,** Question **4 a** should read:

4 **a**

Distance d (m)	*Frequency*	*Interval midpoint*	*Product*
$20 \leqslant d < 30$	2	25	50
$30 \leqslant d < 40$	6	35	210
$40 \leqslant d < 50$	26	45	1170
$50 \leqslant d < 60$	12	55	660
$60 \leqslant d < 70$	3	65	195
$70 \leqslant d < 80$	1	75	75
Total	50		2360

$\therefore$ mean

$= \dfrac{\text{sum of data values}}{\text{the number of data values}}$

$\approx \dfrac{2360}{50}$

≈ 47.2 m

page 394 **CHAPTER 17 EXERCISE 17D.1,** Question **4 a** should read:

4 **a** The graph of $y = g(x)$ is obtained by translating $f(x) = -\frac{1}{2}x - 1$ 4 units upwards.

$\therefore\ g(x) = f(x) + 4$

$= -\frac{1}{2}x - 1 + 4$

$= -\frac{1}{2}x + 3$

b The graph of $y = g(x)$ is obtained by translating $f(x) = \frac{3}{2}x + 1$ 2 units to the right.

$\therefore\ g(x) = \frac{3}{2}(x - 2) + 1$

$= \frac{3}{2}x - 3 + 1$

$= \frac{3}{2}x - 2$

page 447 **CHAPTER 20 EXERCISE 20A,** Question **9 c** should read:

9 **b** radius of circle A ≈ 5.39 units

radius of circle B ≈ 5.83 units

c Distance between $(-2, 3)$ and $(6, -3)$

$= \sqrt{(6 - (-2))^2 + (-3 - 3)^2}$

$= \sqrt{8^2 + (-6)^2}$

$= \sqrt{100}$

$= 10$ units