

ERRATA

Mathematics for Australia 10A

2015 First Edition, first reprint

The following erratum was made on or before 22/Jun/2016

page 615 INDEX, second page of index in the 2015 reprint was wrong, replace with the next page:

See next page

			INDEX	615
horizontal translation	413, 495	multiplier		304
hyperbola	504	negative correlation		534
hypotenuse	98, 246	negative gradient	225.	526
image	391	negative reciprocals	,	228
impossible event	360	negatively skewed distribution		269
included angle	176	Null Factor law		200
independent events	365, 378	number line		88
independent variable	526	number plane		218
index	10	oblique asymptote		515
index laws	10	obtuse angle		322
index notation	10	opposite side		246
induction	167	optimisation		426
interpolation	539	ordered pair		219
interquartile range	283	outlier		269
intersecting lines	344	parabola		410
interval notation	387	parallel box plot		290
irrational number	48	parallel lines	228.	344
isosceles triangle	107	parallelogram	,	126
least squares regression line	540	Pascal's triangle		34
line graph	526	Pearson's correlation coefficient		534
line of best fit	537	perfect squares		30
line of best fit by eye	538	perimeter		122
linear equation	80	period		493
linear regression	540	periodic function		493
linear relationship	531	perpendicular lines		228
litre	146	point of intersection		344
logarithm	441	polynomial		466
logarithm laws	443	positive correlation		534
lower pole	539	positive gradient	224,	526
lower quartile	283	positively skewed		269
lowest common denominator	73	power		10
lowest common multiple	73	present value		316
major arc	455	principal		311
major segment	455	principal axis		493
mark-up	306	probability		360
maximum point	493	product		39
maximum turning point	425	Pythagoras' theorem		98
maximum value	424	Pythagorean triple		104
mean	273	quadrant		218
mean line	493	quadratic equation		198
mean point	538	quadratic formula		207
median	273	quadratic function		408
metre	122	quadratic trinomial		39
midpoint	278	quartic polynomial	466,	476
midpoint of line segment	222	quotient		470
minimum point	494	radical		48
minimum turning point	425	radical conjugates		57
minimum value	424	radius	110,	504
minor arc	455	radius-tangent theorem		452
minor segment	455	range	282,	387
modal class	271	rational expression		64
mode	274	rational number		48

Mathematics 10A for Australia 10A Australian Curriculum Year 10 Advanced Machael Horse Sendra Horse Sendra Horse

ERRATA

Mathematics for Australia 10A

2013 First Edition, initial print

The following errata were made on or before 16/Jul/2015

page 250 CHAPTER 12 Section B Historical note, First and Second paragraphs should have correct spelling for:

Aryabhata

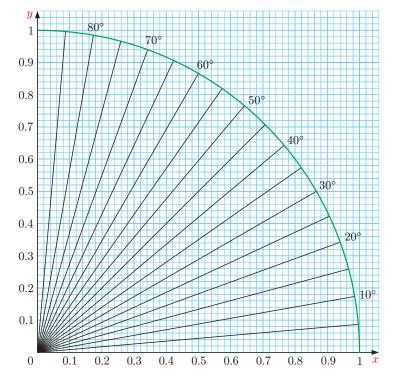
page 258 CHAPTER 12 Section F TRUE BEARINGS, Third paragraph should read:

So, the bearing of B from A is the clockwise measure of the angle between the 'north' line through A, and [AB].

page 307 CHAPTER 14 Section A BUSINESS CALCULATIONS, Text below DISCOUNT should read:

To encourage a sale, a retailer may offer a **discount**. This means that the **marked price** is **reduced** or **discounted** by a certain amount or percentage.

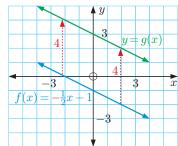
page 323 CHAPTER 15 Section A, Quarter unit circle diagram should include axis labels:



page 350 CHAPTER 16 Example 6, bottom line should read:

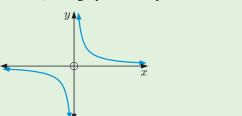
Check: In (1): 29 + 16 = 45 \checkmark In (2): 29 - 16 = 13 \checkmark

4 Find g(x) in the following graphs:

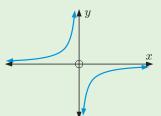


page 519 CHAPTER 24 Section C, Green fact box should read:

• For k > 0, the graph has shape



• For k < 0, the graph has shape



- x = 0 is a vertical asymptote.
- y = 0 is a horizontal asymptote.

page 555 ANSWERS PRACTICE TEST 4C, Question 3 c ii should not cancel a division by 0:

3 a i
$$\frac{a^2-9}{a}$$

$$\frac{3-a}{3}$$

$$-\frac{3(a+3)}{a}$$

- undefined
 - $-\frac{24}{5}$

page 556 ANSWERS PRACTICE TEST 5B, Question 4 should read:

3 a
$$x = 1$$

b
$$x = \frac{10}{9}$$

4 The largest integer is 28.

page 558 ANSWERS EXERCISE 7A, Question 3 f should read:

3 a
$$\approx 10.7 \text{ m}$$

$$\mathbf{b}~\approx 441.3~\mathrm{m}$$

$$\mathbf{c}~\approx 14.3~\mathrm{cm}$$

$$d \approx 85.7 \text{ cm}$$

d
$$\approx 85.7$$
 cm e ≈ 22.8 cm f ≈ 40.7 cm page 558 ANSWERS EXERCISE 7C.1, Question 2 should read:

$$f \approx 40.7 \text{ cm}$$

2 A = 2(ab + bc + ac) units²

page 558 ANSWERS EXERCISE 7D.1, Questions **1 f** and **9 b** should note approximation:

$$d \approx 226 \text{ cm}^3$$

$$\mathbf{e} \approx 177 \text{ m}^3$$

$$f \approx 183 \text{ cm}^3$$

9 a
$$\approx 2378 \text{ cm}^3$$

page 559 ANSWERS EXERCISE 7D.2, Question 3 c should not be an approximation:

3 a
$$\approx 789 \text{ cm}^3$$

$$\mathbf{b}~\approx 264~\mathrm{m}^3$$

c
$$2016 \text{ m}^3$$

page 559 ANSWERS EXERCISE 7D.3, Question 6 a should not be an approximation:

b
$$\approx 1.06$$
 cm

$$\mathbf{c}~\approx 14.1~\mathrm{cm}^2$$

page 559 ANSWERS PRACTICE TEST 7B, Question 4 a should not be an approximation:

4 a
$$14278 \text{ cm}^2$$

b
$$\approx 28.3 \text{ m}^2$$
 c 496 mm^2

page 559 ANSWERS PRACTICE TEST 7C, Questions 2 b and 4 c should read:

2 a i $\frac{x}{2}$ m ii $\frac{x}{4}$ m b Show both areas are $\frac{\pi x^2}{4}$ m².

3 a $\approx 37.4~\mathrm{cm}^2$ b $15~\mathrm{cm}^3$ c $15~\mathrm{mL}$ d $133~\mathrm{ice}$ blocks

4 a $\approx 3848 \text{ cm}^3$ **b** $\approx 3.85 \text{ mL}$

page 560 EXERCISE 8D, Question 10 c should include:

10 b $b = \frac{6g}{g-1}$ **c** 0g 0b, 2g 12b, 3g 9b, 4g 8b, 7g 7b

page 561 ANSWERS PRACTICE TEST 8B, Question 10 b should read:

10 b $S_1 = 2 = 1 \times 2$

$$S_2 = 6 = 2 \times 3$$

$$S_3 = 12 = 3 \times 4$$

$$S_4 = 20 = 4 \times 5$$

$$S_5 = 30 = 5 \times 6$$
 $S_n = n(n+1)$

page 561 ANSWERS PRACTICE TEST 8C, Question 5 c ii should not be an approximation:

5 c i 104°F

ii -459.67° F **iii** -99.67° F

page 561 ANSWERS EXERCISE 9C, Question 5 should read:

5 Join [AC], [BC], and [CX].

Hint: Show $\triangle ACX \cong \triangle BCX$ {RHS}

page 561 ANSWERS EXERCISE 9F, Question 10 c should read:

10 a 10 cm **b** 30 cm² **c** 6 mm, 2.25 mm **d** 1.25 mL

8 B

page 562 ANSWERS PRACTICE TEST 9A, Question 6 should read:

9 E

10 D

page 562 ANSWERS PRACTICE TEST 9C, Question 1 c i should have correct units:

ii $8 = 2^3$ **1 c** i **A** 90 cm^3 , **B** 720 cm^3

page 563 ANSWERS EXERCISE 10F, Questions 3 a and 3 c should read:

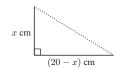
3 a x = 4 or 12, but x > 7, $\therefore x = 12$

b
$$x = 5 + \sqrt{70} \approx 13.4$$

c
$$x = \frac{3}{2}$$
 or 8, but $x > \frac{7}{3}$, : $x = 8$

page 564 ANSWERS PRACTICE TEST 10C, Question 3 a should include solution:

3



 $1 (10 + 2\sqrt{10})$ cm,

$$(10 - 2\sqrt{10}) \text{ cm}, \text{ and}$$

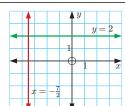
 $2\sqrt{70}$ cm

ii
$$(20 + 2\sqrt{70})$$
 cm

page 565 ANSWERS EXERCISE 11D.2, Question 3 c should read:

3 c gradient of [AC] = 1, gradient of [BD] = -1: the diagonal [AC] bisects the diagonal [BD].

page 567 ANSWERS REVIEW SET 11, Question 8 should have line $x = -\frac{7}{2}$ in correct location on graph:



9 a = 4

10 a
$$AB = BC = 5$$
 units

b
$$X(\frac{1}{2}, \frac{1}{2})$$

c gradient of [BX] = 7,
gradient of [AC] =
$$-\frac{1}{7}$$

and $7 \times -\frac{1}{7} = -1$.

page 568 ANSWERS EXERCISE 12D, Question 1 f should not be an approximation:

1 a $\theta \approx 48.2^{\circ}$

b $\theta \approx 45.6^{\circ}$

c $\theta \approx 56.3^\circ$

d $\theta \approx 37.4^\circ$

e $\theta \approx 42.2^{\circ}$

 $\theta = 45^{\circ}$

page 569 ANSWERS EXERCISE 13A, Question 4 c should read:

4 c approximately symmetrical

d $\approx 38.3\%$

page 571 ANSWERS EXERCISE 13D, Questions 1 b ii and 2 c ii should read:

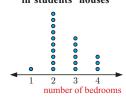
b i ≈ 5 trout ii ≈ 15 trout

ii ≈ 52 students 2 c i $\approx 64\%$ iii $\approx 74\%$

page 571 ANSWERS EXERCISE 13F.1, Question 3 b should have correct boxplot maximum:

page 573 ANSWERS REVIEW SET 13, Questions 2 c and 3 d should read:

Number of bedrooms a discrete in students' houses



3 a 14

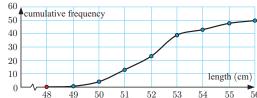
b 13.8

c 14

d 17

page 574 ANSWERS PRACTICE TEST 13C, Question 5 e should include data point at 48cm:

Cumulative frequency graph of newborn babies



page 576 ANSWERS PRACTICE TEST 15C, Question 3 b Hint should give correct formula for area of a triangle:

Area $\triangle P'Q'R' = \frac{1}{2}(ka)(kb)\sin Q' = k^2(\frac{1}{2}ab\sin Q')$

page 577 ANSWERS EXERCISE 16B, Question 1 b should read:

1 a x = 7, y = 4

b x = -1, y = -5

page 578 ANSWERS PRACTICE TEST 16C, Questions 2 b ii and 2 b iii should be swapped:

x = 4, y = 3

ii x = 0, y = -5

page 578 ANSWERS EXERCISE 17A, Question 6 b v should read:

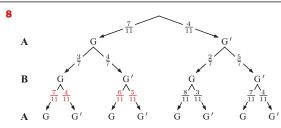
6 b i $\frac{1}{18}$ **ii** $\frac{1}{6}$ **iii** $\frac{11}{36}$ iv $\frac{5}{9}$ v $\frac{1}{4}$ vi $\frac{1}{6}$

iii x = -5.6, y = 0.6

page 578 ANSWERS EXERCISE 17A, Question 11 c i should read:

11 b 150 passengers **c i** $\frac{33}{50}$ **ii** $\frac{13}{50}$ **iii** $\frac{2}{25}$

page 579 ANSWERS EXERCISE 17B.2, Question 8 should read:



page 580 ANSWERS EXERCISE 17D.2, Question 6 a should read:

a From bag A, as $P(2 \text{ yellows from A}) = \frac{1}{3}$ whereas $P(2 \text{ yellows from B}) = \frac{1}{14}$.

page 580 ANSWERS PRACTICE TEST 17B, Questions 5 b and 10 should read:

5 b $\frac{9}{20}$

10 A is the event of "spinning at least one blue" and B is the event of "spinning different colours".

$$P(A) = \frac{1}{2}, P(B) = \frac{17}{24}, P(A \mid B) = \frac{10}{17} \neq P(A)$$

: A and B are not independent.

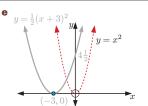
page 580 ANSWERS PRACTICE TEST 17C, Question 4 b should read:

b Increases as there are more red cards. **c** $\frac{1}{3}$

page 580 ANSWERS EXERCISE 18A, Question 1 c should read:

1 c Domain is $\{x \mid -3 < x < 4\}$. Range is $\{y \mid -5 < y < 6\}$.

page 585 ANSWERS EXERCISE 19B.2, Questions **5 e** and **f** should have better scaled $y = x^2$ function:



page 586 ANSWERS EXERCISE 19C, Questions 4 d and f should read:

4 d
$$\frac{7 \pm \sqrt{7}}{6}$$

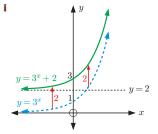
$$\frac{9 \pm \sqrt{33}}{8}$$

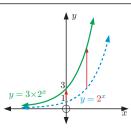
page 589 ANSWERS PRACTICE TEST 19C, Question 2 d should read:

2 d
$$x = \frac{8 \pm \sqrt{-8}}{4}$$
 : no real solutions

page 590 ANSWERS EXERCISE 20B.2, Question 1 b i should include vertical translation and Question 3 a should read:

1 b





page 592 ANSWERS REVIEW SET 20, Question 4 b iii should not be an approximation:

b i
$$\approx 812 \text{ g}$$
 ii $\approx 354 \text{ g}$ iii 125 g

page 593 ANSWERS PRACTICE TEST 20B, Question 7 should be an approximation:

6 **a**
$$x = -2$$

b
$$x = 4$$

page 594 ANSWERS EXERCISE 21C, Question 1 b should read:

1 b The perpendicular from the centre of a circle to a chord bisects the chord, and bisects the angle at the centre subtended by

page 594 ANSWERS REVIEW SET 21, Question 3 b should read:

3 b x = 140 {angle at the centre, exterior angle of a triangle}

page 594 ANSWERS PRACTICE TEST 21C, Questions 2 a iii and iv should read:

2 a i
$$\widehat{PSR} = 2\alpha$$

ii
$$\widehat{PQR} = 2\alpha$$
 iii $\widehat{PRQ} = \frac{2\alpha}{\alpha}$

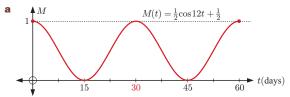
$$\widehat{\mathbf{PRO}} = \widehat{\mathbf{PRO}} = \widehat{\mathbf{PO}}$$

iv
$$\widehat{QPR} = 2\alpha$$

7 **b** $x^2 + 5x + 7 = 0$ and $x^2 - 4x + 5 = 0$ have no real solutions. So, h(x) has no x-intercepts.

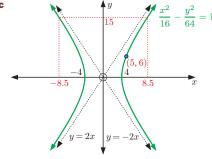
page 601 ANSWERS REVIEW SET 23, Question 8 a should have correct t-axis numbering:

8



page 605 ANSWERS EXERCISE 24C.1, Question 3 c should include information from parts a and b:

3



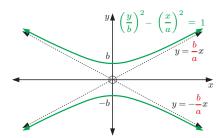
page 606 ANSWERS EXERCISE 24C.1, Questions 6 b and c should read:

6 b i Hint: Under a horizontal stretch with scale factor a we

replace x by $\frac{x}{a}$.

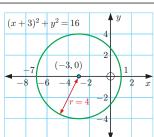
Under a vertical stretch with scale factor b, we replace y by $\frac{y}{b}$.

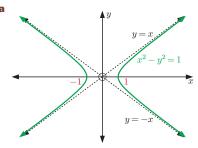
C



page 607 ANSWERS REVIEW SET 24, Question 3 a should include radius:

3 a





page 608 ANSWERS PRACTICE TEST 24A, Question 8 should read:

7 E

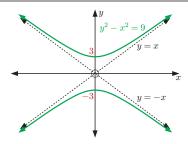
8 D

9 C

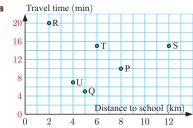
10 E

page 608 ANSWERS PRACTICE TEST 24B, Question 8 should include y-axis intercepts:

8



page 610 ANSWERS EXERCISE 25B, Question 4 a should have correct y-axis scaling:



page 612 ANSWERS EXERCISE 25E.1, Question 4 f should read: II 56 diners

4 f i 73 diners

page 613 $\,$ ANSWERS REVIEW SET 25, Questions 5 d and 6 b should read:

5 d $y \approx -1.12x + 21.3$

e 12th

6 b $R \approx -0.0907I + 9.79$

page 613 ANSWERS PRACTICE TEST 25C, Question 3 should have correctly labelled parts e and f:

i 21 km/h ii 31 km/h

24 lies within the poles, : • i should be reasonably reliable.

40 lies outside the poles, : • ii could be unreliable.