

ERRATA FOR INITIAL PRINT RUN

TEXT

page 293 Theorem (Fermat's Little Theorem)

Last three lines of proof should be:

$$\therefore a^{p-1}(p-1)! \equiv (p-1)! \pmod{p}$$

Now since  $p \nmid (p-1)!$ ,  $p$  being prime, we can cancel by  $(p-1)!$

$$\therefore a^{p-1} \equiv 1 \pmod{p}$$

ERRATA FOR FIRST REPRINT

TEXT

page 91 Example 51

Lines 3 to 5 of solution should start:

$$P(X = 4) = \text{poissonpdf}(5, 4) \dots$$

$$P(X = 5) = \text{poissonpdf}(5, 5) \dots$$

$$P(X = 6) = \text{poissonpdf}(5, 6) \dots$$

page 93 Example 53

Last 5 lines of page should end:

$$\approx 0.12540 \quad \text{and} \quad 150 \times 0.12540 \approx 18.8$$

$$\approx 0.28810 \quad \text{and} \quad 150 \times 0.28810 \approx 43.2$$

$$\approx 0.33093 \quad \text{and} \quad 150 \times 0.33093 \approx 49.6$$

$$\approx 0.19007 \quad \text{and} \quad 150 \times 0.19007 \approx 28.5$$

$$\approx 0.04367 \quad \text{and} \quad 150 \times 0.04367 \approx 6.6$$

page 94 Example 53

Table should be:

Number of children	0 or 1	2	3	4	5	$\Sigma$
$f_o$	23	41	52	26	8	150
$f_e$	22.1	43.2	49.6	28.5	6.6	150

Test Statistic should be: 0.806

$$p\text{-value should be: } P(\chi_{\text{calc}}^2 > 0.806) \approx 0.848$$

page 184 Example 10

Second to last line of solution should start:

If  $p = 1$  then...

page 193 The Squeeze Theorem

Last line of proof should be:

$$\text{Hence } \lim_{n \rightarrow \infty} b_n = L.$$

ANSWERS

page 374 Exercise 10A.4

$$3 \text{ c } \sum_{i=0}^{\infty} e^{-(i+1)^2} < \int_0^{\infty} e^{-x^2} dx < \sum_{i=0}^{\infty} e^{-i^2}$$

$$4 \text{ c } \sum_{i=1}^{\infty} \frac{1}{(i+1)^2} < \int_1^{\infty} \frac{1}{x^2} dx < \sum_{i=1}^{\infty} \frac{1}{i^2}$$

ERRATA FOR SECOND REPRINT

GEOMETRY PRINTABLE CHAPTER

TEXT

page 22 Exercise C

10 Insert: H is the intersection of [AP] and [BQ].

page 25 Exercise D

8 Replace "[OX]" with "[CX]"

page 26 Exercise D

15 Replace "[AB]" with "[AD]"

page 30 Exercise E.3

9 First line should end:  $x^2 + y^2 = 4$

11 a Question should end: Do these circles intersect?

page 35 Exercise F

Remove question 12.

page 38 Exercise G.1

7 Question should end:

... parallel to [BC], meeting [AC] at R. Prove that angle QPR is a right angle.

page 41 Exercise G.2

9 Question should start:

[AB] is a fixed diameter of a circle and F is a fixed point on [AB]. P and Q are points on the circle such that [PQ] is parallel to ...

page 44 Exercise G.4

$$4 \text{ b } \text{Second line should be: } y^2 = \frac{(ac+bd)(ad+bc)}{(ab+cd)}$$

page 44 Exercise G.4

6 Question should start: Similarly to 5, use...

page 45 Exercise H.1

$$2 \text{ Equation should be: } a^2 + b^2 = (p+q)^2$$

page 46 Exercise H.1

3 In diagram, length of AB should be marked  $a$ .

3 a & b Replace 'products of chords' with 'intersecting chords'.

page 47 Harmonic ratios

Insert "AC : CB = 2 : 1" below diagram to right of blue box.

page 47 Exercise I

1 Ratio should be 1 : 3

page 51 Exercise K

1 Remove part b.

2 Question should end:

... prove that [AQ], [BR] and [CP] are concurrent.

ANSWERS

page 58 Exercise D

$$2 \text{ d } r = \sqrt{31} \text{ cm}$$

$$4 \text{ c } OX = \sqrt{105} \text{ cm}$$

page 58 Exercise E.3

10 a (1, 3) and (3, -3)

$$\text{b } y = 6 - 3x, \quad 1 \leq x \leq 3$$

$$\text{c } y = 6 - 3x$$

$$\text{d } y = 6 - 3x, \quad \text{the equation of the radical axis}$$

11 a  $x + 3y = 3$  No, they do not intersect.

page 58 Exercise G.2

$$3 \quad \frac{\sqrt{208}}{3} \text{ cm}, \quad \frac{10}{3} \text{ cm}, \quad \frac{\sqrt{292}}{3} \text{ cm}$$

page 58 Exercise G.3

$$3 \quad \sqrt{105} \text{ cm}$$

page 58 Exercise H.1

$$1 \text{ b } \frac{144}{13} \text{ cm}$$

$$\text{c } \frac{60}{13} \text{ cm}$$

page 58 Exercise H.2

$$2 \text{ b } 16 : 33$$

$$\text{c } \frac{98}{11} \text{ cm}^2$$

page 58 **Exercise K**

1 b Replace with 1 : 2

2  $\frac{AB}{PB} \times \frac{BQ}{QC} \times \frac{CR}{RA} = \frac{2}{1} \times \frac{3}{1} \times \frac{1}{6} = 1$  etc.

page 58 **Exercise L**

4 1 : 2

**TEXT**

page 225 **Taylor's Theorem**

Second to last line of theorem should end:

... where  $c$  is a constant,  $c$  between  $x$  and  $a$

page 259 **Exercise 11A.3.2**

10 b Question should end:

...  $4q$  or  $4q + 1$  for some  $q \in \mathbb{Z}$ .

page 261 **Exercise 11A.3.3**

14 Question should end:

... is of the form  $8k + 1$ .

page 265 **Theorem 5**

Proof should reference Theorem 4, not Theorem 1.

page 272 **Example 13**

Question should start:

Solve  $172x + 20y = 1000$  ...

page 278

Top line of page should start:

A final type are those of the form  $2^{2^n} + 1$ ; ...

page 297

6<sup>th</sup> dot point should be:

Graph 5 is both  $W_4$  and  $K_4$ .

page 298

6<sup>th</sup> definition should start:

**Incident Edge/Vertex** An edge which connects...

page 302 **GRAPH ISOMORPHISM**

$W_3$  should be replaced with  $W_4$  in both the paragraph and the diagram.

page 312

First blue box on page should start:

A connected graph is ...

on both lines.

**ANSWERS**

page 382 **Exercise 10D**

1 Solution should be:

$\ln(1+x)$   
 $= x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots + (-1)^{n-1} \frac{x^n}{n} + R_n(x:0)$

Interval of convergence  $]-1, 1]$ .

$R_n(x:0) = f^{(n+1)}(c) \frac{(x-0)^{n+1}}{(n+1)!}$   
 $= \frac{n!(-1)^n}{(1+c)^{n+1}} \frac{x^{n+1}}{(n+1)!}$   
 $= \frac{(-1)^n}{(1+c)^{n+1}(n+1)} x^{n+1}$   
 $\rightarrow 0$  for  $|x| < 1, -1 < c < 1$

page 392 **Exercise 11A.3.3**

14 Solution should end:

$\Rightarrow a^4 = (4p+1)^2 = 16p^2 + 8p + 1$

$\Rightarrow a^4 = 8(2p^2 + p) + 1$

which is of the form  $8k + 1, k \in \mathbb{Z}$

**ERRATA FOR THIRD REPRINT**

**TEXT**

page 54 **Example 30**

Second to last line should be:

$= \frac{1}{n^2} \times n\sigma^2$

page 107 **Review Set 8B**

12 Second line should read: "advertised at 375 mL. It is known..."

**ANSWERS**

page 352 **Exercise 8A**

4 Third line should be:

$U \sim N(388, 532)$

page 360 **Exercise 8E.2**

4 b  $t$ -distribution with  $s_{n-1} = \sqrt{\frac{389}{388}} \times \$0.25$   
 $\approx 0.2503$

page 362 **Review set 8A**

5 c ii Last three lines should be:

$= 1 - \{P(F=2) + P(F=1) \times \frac{1}{4}\}$   
 $= 1 - \left\{ \binom{2}{2} \left(\frac{1}{4}\right)^2 + \binom{2}{1} \left(\frac{1}{4}\right)^1 \left(\frac{3}{4}\right)^1 \times \frac{1}{4} \right\}$   
 $\approx 0.844$

page 398 **Exercise 11B.2**

1 c iii 2, 2, 4, 4

page 399 **Exercise 11B.2**

15 a Diagram should be:

