

ERRATA

MATHEMATICS FOR THE INTERNATIONAL STUDENT MATHEMATICS HL (OPTIONS)

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page 31 **TABLE** replace row 2

Binomial	$X \sim B(n, p)$	$\binom{n}{x} p^x (1-p)^{n-x}$ for $x = 0, 1, \dots, n$	np	$np(1-p)$
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page 54 **EXAMPLE 30** solution, second to last line should read:

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

page 92 **EXAMPLE 52** solution, change the following 6 lines:

$$\begin{aligned} P(X = 0) &= \text{binompdf}(5, 0.5, 0) \approx 0.03125 & \text{and} & \quad 150 \times 0.03125 \approx 4.7 \\ P(X = 1) &= \text{binompdf}(5, 0.5, 1) \approx 0.15625 & \text{and} & \quad 150 \times 0.15625 \approx 23.4 \\ P(X = 2) &= \text{binompdf}(5, 0.5, 2) \approx 0.3125 & \text{and} & \quad 150 \times 0.3125 \approx 46.9 \\ P(X = 3) &= \text{binompdf}(5, 0.5, 3) \approx 0.3125 & \text{and} & \quad 150 \times 0.3125 \approx 46.9 \\ P(X = 4) &= \text{binompdf}(5, 0.5, 4) \approx 0.15625 & \text{and} & \quad 150 \times 0.15625 \approx 23.4 \\ P(X = 5) &= \text{binompdf}(5, 0.5, 5) \approx 0.03125 & \text{and} & \quad 150 \times 0.03125 \approx 4.7 \end{aligned}$$

page 93 **EXAMPLE 53** solution, last 6 lines on the page should read:

$$\begin{aligned} P(X = 0) &= \text{binompdf}(5, 0.5346, 0) \approx 0.02183 & \text{and} & \quad 150 \times 0.02183 \approx 3.3 \\ P(X = 1) &= \text{binompdf}(5, 0.5346, 1) \approx 0.12540 & \text{and} & \quad 150 \times 0.12540 \approx 18.8 \\ P(X = 2) &= \text{binompdf}(5, 0.5346, 2) \approx 0.28810 & \text{and} & \quad 150 \times 0.28810 \approx 43.2 \\ P(X = 3) &= \text{binompdf}(5, 0.5346, 3) \approx 0.33093 & \text{and} & \quad 150 \times 0.33093 \approx 49.6 \\ P(X = 4) &= \text{binompdf}(5, 0.5346, 4) \approx 0.19007 & \text{and} & \quad 150 \times 0.19007 \approx 28.5 \\ P(X = 5) &= \text{binompdf}(5, 0.5346, 5) \approx 0.04367 & \text{and} & \quad 150 \times 0.04367 \approx 6.6 \end{aligned}$$

page 94 **EXAMPLE 53** solution, change the following line to:

$$\mathbf{p\text{-value:}} \quad p\text{-value} = P(\chi_{calc}^2 > 0.806) \approx 0.848 \quad \{\text{graphics calculator}\}$$

page 95 **EXAMPLE 54** solution, change the following line to:

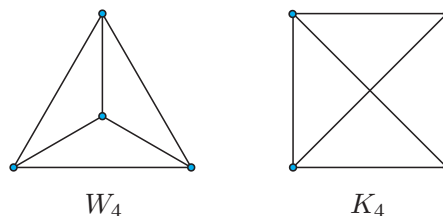
$$\mathbf{p\text{-value:}} \quad p\text{-value} = P(\chi_{calc}^2 > 10.696) \approx 0.0135 \quad (\text{from the gcalc.})$$

page 107 **REVIEW SET 8B**

- 12** A drink manufacturer produces soft drink for sale with each bottle having contents advertised at 375 mL. It is known that the machines producing these drinks are set so that the average volume per bottle produced is 376 mL with a standard deviation of 1.84 mL. Given that the volumes of bottles are distributed normally, find:

page 302 **TEXT** – **GRAPH ISOMORPHISM** text under sub-section heading should read:

In **Section 11B.2**, we briefly introduced graph isomorphism when we compared the wheel graph W_4 with the complete graph K_4 . We saw that these graphs have seemingly different representations on paper, as illustrated alongside, but they are in fact the same. Here they are again (and there are many other representations):



- 4** $M \sim N(61, 11^2)$ and $C \sim N(48, 4^2)$
 $U = M_1 + M_2 + M_3 + M_4 + C_1 + C_2 + C_3$
 $U \sim N(388, 532)$
 $P(U > 440) \approx 0.0121$ if unsafe
Assumption: The random variables $M_1, M_2, M_3, M_4,$
 C_1, C_2 and C_3 are independent.

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

- 5 c ii** F is now binomial
 i.e., $F \sim B(12, \frac{1}{4})$ and
 $P(\text{buy packet})$
 $= 1 - P(\text{do not buy packet})$
 $= 1 - \{P(F = 2) + P(F = 1) \times \frac{1}{4}\}$
 $= 1 - \left\{ \binom{2}{2} \left(\frac{1}{4}\right)^2 + \binom{2}{1} \left(\frac{1}{4}\right)^1 \left(\frac{3}{4}\right)^1 \times \frac{1}{4} \right\}$
 ≈ 0.844

- 1 c iii** 2, 2, 4, 4

