The following errata were made on 25/Jun/2020

page 104 CHAPTER 2 INVESTIGATION 2 Question 5, should read:

5 \[ u_n = u_0e^{rt}, \quad u_0 = 1000, \quad r = 0.06, \quad t = 1 \]
\[ \therefore \quad u_n = 1000 \times e^{0.06 \times 1} \]
\[ \approx 1061.84 \]
The final amount is $1061.84$.

page 166 CHAPTER 3 INVESTIGATION 3 Question 2 c, replace entirely with:

2  c  From b, \( f = 261.6 \times 2^n \)
\[ \therefore \quad n = \log_2\left(\frac{f}{261.6}\right) \]
Let \( f_P \) and \( f_Q \) be the frequencies of notes P and Q respectively, where Q is one note above P. There are 12 notes in an octave, and they are evenly spaced on the logarithmic scale.
\[ \therefore \quad \log_2\left(\frac{f_Q}{261.6}\right) - \log_2\left(\frac{f_P}{261.6}\right) = \frac{1}{12} \]
\[ \therefore \quad \log_2\left(\frac{f_Q}{f_P}\right) = \frac{1}{12} \]
\[ \therefore \quad \frac{f_Q}{f_P} = 2^{\frac{1}{12}} \]
So, the ratio between the frequencies of two consecutive notes is \( 2^{\frac{1}{12}} : 1 \approx 1.06 : 1 \).

page 1547 EXERCISE 25D Question 5 f, should read:

5  f  \[ e^y(2x^2 + 4x + 1) \frac{dy}{dx} = (x + 1)(e^y + 3) \]
\[ \therefore \quad \frac{e^y}{e^y + 3} \frac{dy}{dx} = \frac{x + 1}{2x^2 + 4x + 1} \]
\[ \therefore \quad \int \frac{e^y}{e^y + 3} dy = \frac{1}{3} \int \frac{x + 1}{2x^2 + 4x + 1} dx \]
\[ \therefore \quad \ln | e^y + 3 | = \frac{1}{3} \ln | 2x^2 + 4x + 1 | + c \]
\[ \therefore \quad \ln(e^y + 3) = \frac{1}{3} \ln | 2x^2 + 4x + 1 | + c \quad \{ e^y + 3 > 0 \quad \text{for all } y \} \]
\[ \therefore \quad e^y + 3 = e^c \left| 2x^2 + 4x + 1 \right| \]
\[ \therefore \quad e^y + 3 = A \sqrt{2x^2 + 4x + 1} \quad \{ A = e^c \} \]
\[ \therefore \quad e^y = A \sqrt{2x^2 + 4x + 1} - 3 \]
\[ \therefore \quad y = \ln \left[ A \sqrt{2x^2 + 4x + 1} - 3 \right] \]

But \( y(0) = 2 \), so \( \frac{2}{3} = \ln(A - 3) \)
\[ \therefore \quad e^2 = A - 3 \]
\[ \therefore \quad A = e^2 + 3 \]
The particular solution is \( y = \ln \left[ \sqrt{2x^2 + 4x + 1} (e^2 + 3) - 3 \right] \).
The following erratum was made on 26/May/2020

page 1722 EXERCISE 28B Question 15 a iv, fourth last line should read:

\[
\begin{align*}
15 & \quad a \quad iv \\
\text{Var}(Y) &= \int_{2a+1}^{2b+1} (y - E(Y))^2 f_Y(y) \, dy \\
&= \int_{2a+1}^{2b+1} \frac{1}{2}(y - E(Y)) f_X \left( \frac{y - 1}{2} \right) \, dy \quad \text{\{from iii\}} \\
\text{Let} \quad y &= 2x + 1, \quad \therefore \quad dx = \frac{1}{2} \, dy \\
\text{When} \quad y &= 2b + 1, \quad x = b \\
\text{When} \quad y &= 2a + 1, \quad x = a
\end{align*}
\]

page 1140 REVIEW SET 18B Question 28 c, sign diagram should read:

\[
\begin{align*}
28 & \quad c \\
f'(x) &= \frac{e^x (x - 1) - e^x (1)}{(x - 1)^2} \quad \text{\{quotient rule\}} \\
&= \frac{e^x (x - 2)}{(x - 1)^2} \quad \text{which has sign diagram:} \quad \frac{-i}{1} - \frac{1}{2} + \frac{f'(x)}{x}
\end{align*}
\]