

**MATHEMATICAL STUDIES WORKED SOLUTIONS
ERRATA (as at 12 January 2007)**

page 11 **Exercise 1A**

13 replace the last line of the solution with:

For $k = 0$, $3x = 1$ which cuts the x -axis only once.

Otherwise, the function has 2 real roots whenever

$\Delta \geq 0$ i.e., $k \geq -1$ or $k \leq -9$, $k \neq 0$

page 11 **Exercise 1A**

14 b answer should be:

For $k = 0$, $y = -3x$ which cuts the x -axis only once,

otherwise the graph cuts the x -axis when

$\Delta > 0$ i.e., $-\frac{3}{2} < k < \frac{3}{2}$, $k \neq 0$

page 123 **Exercise 4B.2**

7 b last line should be: $a(t) \rightarrow 0 \text{ cm s}^{-2}$ (from above)

c last line should be:

As $t \rightarrow \infty$, $s(t) \rightarrow \infty$, $v(t) \rightarrow 40 \text{ cm s}^{-1}$

(from below), $a(t) \rightarrow 0 \text{ cm s}^{-2}$ (from above)

page 169 **Exercise 5A**

2 h end of first line should be:

... $v = e^{-x} + 1$, $u' = e^x$, $v' = -e^{-x}$

page 294 **Review set 7C**

6 last 3 lines should be:

$$\begin{aligned} \therefore \text{Profit} &= \text{income} - \text{expenditure} \\ &= \$20 \times (2000 - 294) - \$5 \times 2000 \\ &= \$24\,120 \end{aligned}$$

page 328 **Exercise 9B**

8 b first line should start: When $m = 2$, ...

forth line should start: When $m = -2$, ...

page 341 **Exercise 9E.1**

6 e 2 It does not matter how many extra positions we use, we cannot determine the exact value of the masses. Further positions (and thus equations) will result in a system with infinitely many solutions, and only the ratio of masses can be established.