

Math 101 Errata Sheet

Please note that the majority of typographical errors in the Study Guide, the Solutions Manual and the Student Manual (which are listed below) have already been corrected in the course materials. They are still included for those who have older versions of the materials. However, the ones marked **NEW** have been found more recently.

You can help keep this list up-to-date by reporting any errors you may find to your tutor.

ERRATA AS OF JANUARY 2007

Solutions Manual:

NEW page 12, # 2c

Figure 1.3.2c should show

the RANGE of the transformed graph to be $[2,6]$, not $[2,5]$.

The horizontal line extension on the right side of the graph should be height **6**.

page 13, # 3b should read

NOTE: $f(x) = x^2 - 6x + 7$

$$\begin{aligned}g(x) &= f(2x-2) + 2 \\&= (2x-2)^2 - 6(2x-2) + 7 + 2 \\&= 4x^2 - 8x + 4 - 12x + 12 + 7 + 2 \\&= 4x^2 - 20x + 18 + 7 \\&= 4x^2 - 20x + 25\end{aligned}$$

NEW page 14, # 3d

Figure 1.3.3d should show

a parabola opening upward with **vertex = $(5/2,0)$** and y-intercept = **25**.

page 15, # 4b should read

NOTE: $f(x) = \frac{5x-4}{x-1}$

$$\begin{aligned}g(x) &= f(2x-2) + 2 \\&= \frac{5(2x-2)-4}{2x-2} + 2\end{aligned}$$

$$\begin{aligned}
&= \frac{(2x-2) - 1}{2x-3} + 2 \\
&= \frac{10x - 14}{2x - 3} + 2 \\
&= \frac{10x - 14 + 2(2x - 3)}{2x - 3} \\
&= \frac{14x - 20}{2x - 3}
\end{aligned}$$

NEW page 16, # 4d

Figure 1.3.4d should show the graph that is already there moved vertically upward so that the **y-intercept is $6 \frac{2}{3}$** – not $4 \frac{2}{3}$.

page 16, # 5 last line on page should read:

$$\begin{aligned}
f(x) &\rightarrow f(x-1) \\
\frac{x^2}{2} - 8 &\rightarrow \frac{(x-1)^2}{2} - 8 = \frac{1}{2}(x^2 - 2x + 1) - 8
\end{aligned}$$

page 17, # 5 second line from top should read:

$$\begin{aligned}
f(x) &\rightarrow -f(x) \\
\frac{1}{2}(x^2 - 2x + 1) - 8 &\rightarrow -\frac{1}{2}(x^2 - 2x + 1) + 8 = -\frac{1}{2}x^2 + x + \frac{15}{2}
\end{aligned}$$

NEW page 103, # 1 fifth line from the top

i. $\Theta = \pi / 6$ or ii. $\Theta = 5\pi / 6$

should read

i. $\Theta = \pi / 3$ or ii. $\Theta = 5\pi / 3$

ERRATA AS OF JANUARY 2007

Student Manual:

1. page 15

' Midterm Examination Units 1 - 5 _____ / 30% '

should read

' Midterm Examination Units 1 - 4 _____ / 30% '

2. page 18, Assignment 1 for Units 1-3

question 6b

' Use the factor theorem to show that if $2^p - 1$ is a prime number, then p is neither divisible by 4 or divisible by 3. '

should read

' Use the factor theorem to show that if $2^p - 1$, where $p \neq 3$, is a prime number, then p is neither divisible by 4 nor divisible by 3. '

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Study Guide:

page 33, 3rd line from the top

' ... puffin, rotated it 180 degrees (flipped it upside-down) and then transposed ... '

should read

' ... puffin, rotated it 180 degrees and then transposed ... '

NOTE that rotating the puffin 180 degrees and flipping it upside down are not equivalent transformations.

page 33, 13th line from the bottom

' In this example, the point (a, b) first undergoes reflection with respect to the y -axis; ... '

should read

' In this example, the point (a, b) first undergoes reflection **across the x -axis**; ... '

page 33, 9th line from the bottom

' Then, the point undergoes reflection with respect to the x -axis; ... '

should read

' Then, the point undergoes reflection **across the y -axis**; ... '

page 43, 1st line from the top

' $y - f(x) = x^2$ '

should read

' $y = f(x) = x^2$ '

NEW page 47, Exercise 2

Instructions should read:

"**For each of the following functions f , find its inverse f^{-1} , if it exists, and express f^{-1} as a function of x .** If the function f does not have an inverse, what could be done to the domain of the function to make the function invertible? Please justify your answers."

page 51, 4th line from the top

' $4^{3+3} = (4^3)(4^3) = 128 \cdot 128 = 16384$ '

should read

' $4^{3+3} = (4^3)(4^3) = 64 \cdot 64 = 4096$ '

page 58

' The reflection can be explained mathematically: performing a reflection across the x -axis is like replacing'

should read

' The reflection can be explained mathematically: performing a reflection across the y -axis is like replacing'

page 72, last line

' ... numbers such that $n = 1$. '

should read

' ... numbers such that $n \neq 1$. '

NEW page 99, the Note

'The remainder theorem does not work is the divisor is anything other than ...'

should read

'The remainder theorem does not work **if** the divisor is anything other than ...'

page 118, Exercise 3

'solve the following trigonometric equations. '

should read

'solve the following equations. '

page 127, first line of Example

' Sketch the graph of the equation $x = 4y^2 + 3y + 7$. '

should read

' Sketch the graph of the equation $x = 4y^2 + 8y + 7$. '

page 131, Figure 4.5

This figure should be a circle with centre (4, -3), NOT centre (4,3).

page 134, last line missing

' Hence the equation is given by ' should read

' Hence the equation is given by $\frac{(x+1)^2}{4^2} + \frac{(y-3)^2}{3^2} = 1$. '

page 237, property 3

' $\sin \frac{\pi}{2 - \theta} = \cos \theta$, and $\cos \frac{\pi}{2 - \theta} = \sin \theta$ '

should read

' $\sin (\pi/2 - \theta) = \cos \theta$, and $\cos (\pi/2 - \theta) = \sin \theta$ '

page 237, last line

' See Figure 8.4, below. '

should read

' See Figure 8.4, overleaf . '

page 247, starting at 'horizontal scaling':

'---- horizontal scaling: $f(x) \rightarrow f(ax)$, where $a \neq 0$ '

should read

'---- horizontal scaling: $f(x) \rightarrow f(cx)$, where $c > 0$ '

'... then the period of $f(ax)$ will be equal to p/a .'

should read

'... then the period of $f(cx)$ will be equal to p/c .'

‘---- vertical scaling: $f(x) \rightarrow a f(x)$, where $a \neq 0$ ’

should read

‘----vertical scaling: $f(x) \rightarrow c f(x)$, where $c > 0$ ’

‘**Note:** The amplitude is equal to the difference between the maximum and the minimum of the wave.] If $f(x)$ had an amplitude of p , then $x f(p)$ will have an amplitude of ap .’

should read

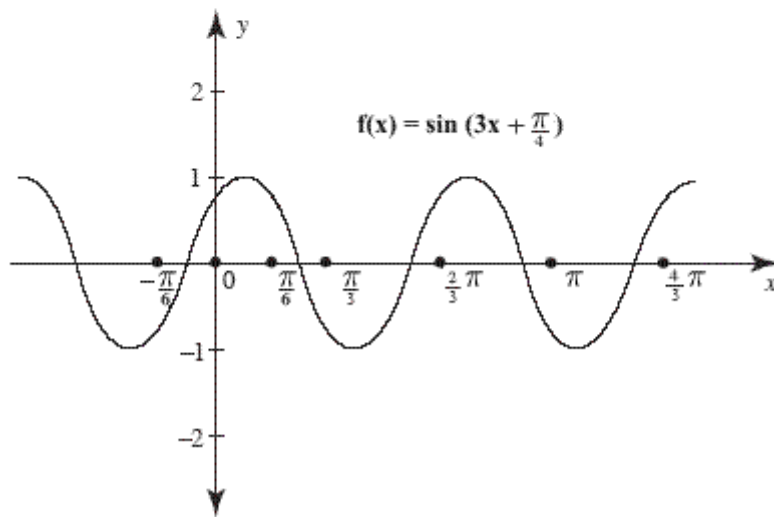
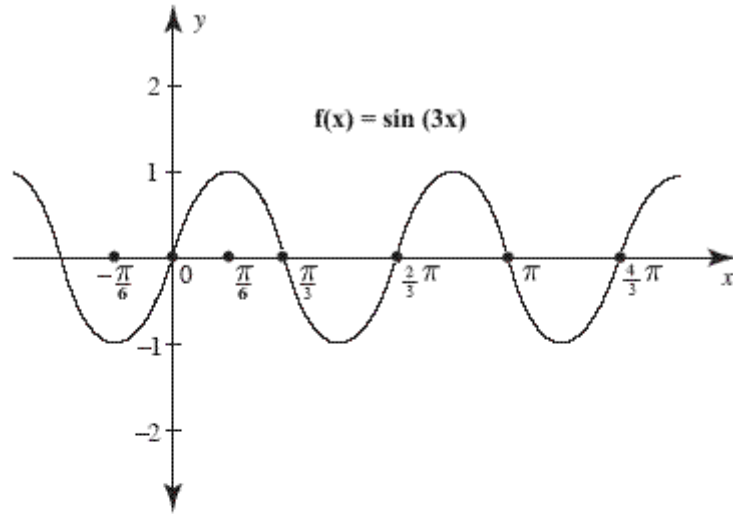
‘**Note:** The amplitude is equal to **one-half** the difference between the maximum and the minimum of the wave.] If $f(x)$ had an amplitude of a , then $c f(x)$ will have an amplitude of ca .’
(By this definition of amplitude, the functions $\sin(x)$ and $\cos(x)$ each have amplitude 1.)

page 250, Figure 9.3

Figure 9.3 **shows** a shift of the graph in Figure 9.2 to the right.

Figure 9.3 **should be showing** the graph in Figure 9.2 shifted to the LEFT by $\pi/12$ units since it represents the graph of the function $f(x) = \sin (3x + \pi/4)$ which is a horizontal shift to the **left** by $\pi/12$ units of the graph of $\sin (3x)$.

Below you will find the plots of the graphs of $f(x) = \sin (3x)$ and $f(x) = \sin (3x + \pi/4)$.

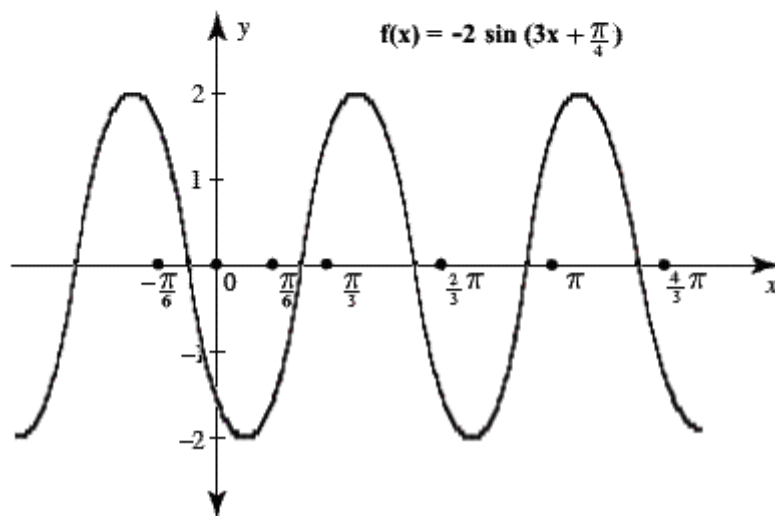
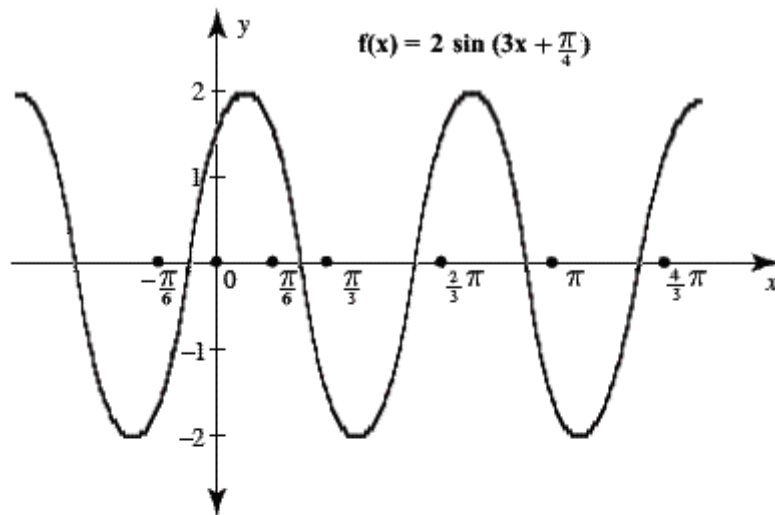


page 251

' ... which is to say “apply a horizontal shift to the right by $\pi/12$ units, ‘
 should read
 ... which is to say “apply a horizontal shift to the **left** by $\pi/12$ units, ‘

pages 251 and 252, Figures 9.4 and 9.5

Figures 9.4 and 9.5, respectively, should be as follows:



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Developmental Math, by Probert and Targa:

page 40, Chapter 2, Exercise Set 2.15

question # 32

'... how much of each ingredient is required to make 3 kg of gunpowder? '

should read

'... how much **more** of each ingredient is required to make 3 kg of gunpowder? '

page 236, Chapter 9, Exercise Set 9.9.1

question # 6

' $x - 3y = -9$ '

should read

' $x - 3y = 9$ '

page 239, Chapter 9, Exercise Set 9.9.2

question # 8

' $10 - \frac{1}{3}x = -y$ '

should read

' $10 - \frac{1}{3}x = y$ '

page 292, Chapter 10, End of Chapter Test

question # 7

' $5 > -4x + 2 \geq 12$ '

should read

' $5 \leq -4x + 2 \leq 12$ '

page 375, EXAMPLE 13-10 first line below ‘Answer:’ should read

$$\frac{x^2 - y^2}{xy} \times \frac{x^2 - 2xy + y^2}{2x^2y^2} \quad \text{Multiply by reciprocal}$$

page 400, first line above Exercise Set 13.4 should read

1. $\frac{4y + 7x}{y - 3x}$

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Developmental Math, by Probert and Targa
Answers to the Exercises

page 485, Chapter 1, Exercise Set 1.4

3. Answer should be: -1

page 486, Chapter 2, Exercise Set 2.3

10. Answer should be: $2 \frac{9}{11}$

page 490, Chapter 3, Exercise Set 3.5

4. Answer should be: 5000.0

page 491, Chapter 3, Exercise Set 3.6

1. Answer should be: 73.8308

page 492, Chapter 4, Exercise Set 4.4

1. Answer should be: 14000 W

page 495, Chapter 7, Exercise Set 7.2.2

2. Answer should be: -3 y

4. Answer should be: -12 K - 7 T

6. Answer should be: -3 x + 7 y

page 495, Chapter 7, Exercise Set 7.3

9. Answer should be: 7 g / cm^3

page 495, Chapter 7, Exercise Set 7.4

5. Answer should be: $a = 2$

page 496, Chapter 7, End of Chapter Test

2d. Answer should be: $m \cdot (m + 1)$

4c. Answer should be: $15 x^{10/3}$

page 497, Chapter 8, Exercise Set 8.4

2. Answer should be: $\angle BAC = \angle DEC, \angle ABC = \angle CDE, \angle ACB = \angle DCE$

page 497, Chapter 8, Exercise Set 8.6.2

Answers are misnumbered:

3 should read # 2; # 4 should read # 3; # 5 should read # 4.

page 497, Chapter 8, Exercise Set 8.7

1c. Answer should be: $A = 48 \text{ m}^2$

1g. Answer should be $A = l^2, P = 4 l$

3. Answer should be: 36.87%

page 498, Chapter 8, Exercise Set 8.8

3b. Answer should be: 384.75 m^2

page 500, Chapter 9, Exercise Set 9.1

3. Answer should be: $(0, -2)$ between Quadrants III and IV

page 506, Chapter 9, Exercise Set 9.5

28. Left-most labeled point should be: $(-8, 2.5)$

page 509, Chapter 9, Exercise Set 9.7

9. Answer should be: $y = \frac{3}{2} x + 1$

page 512, Chapter 9, End of Chapter Test

11. Answer should be: $m = 4$ and $b = 6$

page 513, Chapter 10, Exercise Set 10.1.1

30. Answer should be: $x \leq 25$

page 518, Chapter 10, End of Chapter Test

7. Answer should be: $\left\{x \mid -\frac{5}{2} \leq x < -\frac{3}{4}\right\}$

page 519, Chapter 11, Exercise Set 11.2

1d. Answer should be: composite

2b. Answer should be: $3 \times 5 \times 13$

page 519, Chapter 11, Exercise Set 11.4

6. Answer should be: $2g(1 - 2h)$

page 519, Chapter 11, Exercise Set 11.5

4. Answer should be: $-6t^2 + 22t - 20$

page 520, Chapter 11, End of Chapter Test

1a. Answer should be: Composite: 1, 2, 3, 4, 6, 8, 12, 24

page 521, Chapter 12, Exercise Set 12.2.2

16. Answer should be: $x = 3 \pm \sqrt{14}$

NEW page 522, Chapter 12, Exercise Set 12.2.3

24. Answer should be: $x = \frac{4 \pm i\sqrt{19}}{5}$

28. Answer should be: $y = \frac{1 \pm \sqrt{22}}{3}$

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Developmental Math, by Probert and Targa

Students Solutions Manual

NEW page 82, Exercise Set 12.2.3

24. last two lines of solution should read:

$$x = \frac{8 \pm \sqrt{(-1) \cdot 4 \cdot 19}}{10}$$

$$x = \frac{4 \pm i\sqrt{19}}{5}$$

28. last three lines of solution should read:

$$3y^2 - 2y - 7 = 0$$

$$y = \frac{-(-2) \pm \sqrt{(-2)^2 - 4 \cdot 3 \cdot (-7)}}{2 \cdot 3}$$

$$y = \frac{1 \pm \sqrt{22}}{3}$$