CliffsQuickReview Trigonometry Errata Sheet
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Page 10

If trigonometric functions of an angle θ are combined in an equation and the equation is valid for all values of θ, then the equation is known as a **trigonometric identity**. Using the trigonometric ratios shown in the preceding equation, the following trigonometric identities can be constructed.

- $\frac{\sin\theta}{\cos\theta} = \frac{\frac{y}{r}}{\frac{x}{r}} = \frac{x}{y} = \tan\theta \quad \frac{\cos\theta}{\sin\theta} = \frac{\frac{x}{r}}{\frac{y}{r}} = \frac{x}{y} = \cot\theta$

Symbolically, $(\sin\alpha)^2$ and $\sin^2\alpha$ can be used interchangeably. From Figure 1-4 (a) and the Pythagorean theorem, $x^2 + y^2 = r^2$.

$$\sin^2\theta + \cos^2\theta = \left(\frac{y}{r}\right)^2 + \left(\frac{x}{r}\right)^2 = \frac{y^2}{r^2} + \frac{x^2}{r^2} = \frac{x^2 = y^2}{r^2} = \frac{r^2}{r^2} = 1$$

Page 11

Example 8 should read as follows:
Find sin θ and cos θ if θ is an acute angle (0° < θ < 90°) and tan θ = 6.

Page 81

Equations at the bottom in the middle column should read as follows:

$$\sec\alpha = -\frac{1}{\cos\alpha}$$

$$\sec\alpha = \frac{1}{-\left(\frac{\sqrt{15}}{8}\right)}$$

$$\sec\alpha = \frac{8}{\sqrt{15}}$$

$$\sec\alpha = \frac{8\sqrt{15}}{15}$$

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Under "Tangent Identities," replace 2nd equation with:

$$\tan(\alpha+\beta) = \frac{\sin\alpha\cos\beta + \cos\alpha\sin\beta}{\cos\alpha\cos\beta - \sin\alpha\sin\beta}$$

Also in the equation below this one, #3 or next-to-last one on the page, the **plus sign** in the **denominator** of the fraction needs to be changed to a **minus sign**.

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Final answer is correct, but steps in between should be:

Solution A $\quad \tan 15^\circ = \left(1 - \frac{\sqrt{3}}{2}\right)\left(\frac{2}{1}\right)$

Convert and add: $\quad \tan 15^\circ = \left(\frac{2}{2} - \frac{\sqrt{3}}{2}\right)\left(\frac{2}{1}\right) = \left(\frac{2-\sqrt{3}}{2}\right)\left(\frac{2}{1}\right)$

Cancel: $\tan 15° = \left(\frac{2-\sqrt{3}}{\not{2}}\right)\left(\frac{\not{2}}{1}\right) = 2-\sqrt{3}$

For Solution B insert the following before the first line:

Convert and add: $\tan 15° = \dfrac{\frac{1}{2}}{\frac{2}{2}+\frac{\sqrt{3}}{2}} = \dfrac{\frac{1}{2}}{\frac{2+\sqrt{3}}{2}}$

Page 106

4th line on page, coordinates of point P should read: $(x_b - x_a, y_b - y_a)$

Substitute for second equation below diagram: $y = y_b - y_a = 2-(-7) = 9$

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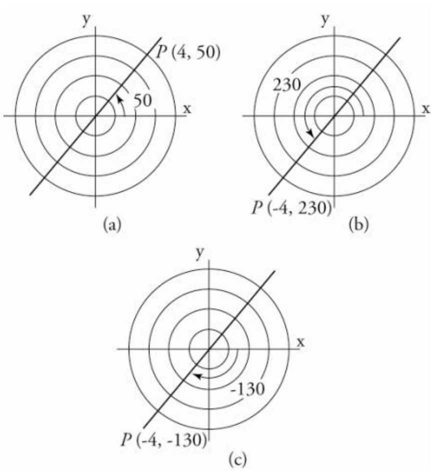
Next-to-last line on page should read as follows:

$5\text{v} - 2\text{w} = \langle 40,\ -10\rangle - \langle 6,\ 14\rangle$

Page 114 -- point P is 180 degrees opposite from where it should be in (b) and (c). Figure should look like one below.



Page 119

In Example 4, substitute $4-2i,\ -3+2i$ **for** $4-2i-3+2i$.

Page 122

First line of the equation under **De Moivre's Theorem**

currently starts: $z^2\left[r(\cos\alpha + i\sin\alpha)\right]\ldots$

It should read: $z^2 = \left[r(\cos\alpha + i\sin\alpha)\right]\ldots$

Example 9: In the directions, "$s+bi$" should read "$a+bi$."

The 2nd line of the solution should read $r = \sqrt{\sqrt{3^2 + (-1)^2}}$

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Example 10. After the radius is found, delete what is in red. "Since $\cos\alpha = ! \alpha = \ldots$"

Page 124

Example 11. The 2nd line of the equation should read $r = \sqrt{\sqrt{3^2 + (-1)^2}}$

Page 130

Under "Identities for the sine and inverse sine:" Second equation should read as follows:

$$\operatorname{Sin}^{-1}(\sin x) = x - \frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$