

Unit 7 Review – Secondary 3 Honors

PreCalc Book: p. 344 4, 13, 159-162
p. 349 3-9

Additional Problems:

No calculator!!! Give exact answers.

- 1a) $\cos \frac{\pi}{4}$
- b) $\tan \pi$
- c) $\sec \frac{7\pi}{6}$
- d) $\sin \frac{5\pi}{2}$

Find θ .

- 2a) $\sin \theta = \frac{-1}{2} \quad 0^\circ \leq \theta < 360^\circ$
 - b) $\csc \theta = \sqrt{2} \quad 0^\circ \leq \theta < 360^\circ$
 - c) $\cot \theta = \text{undefined} \quad 0^\circ \leq \theta < 360^\circ$
 - d) $\cos \theta = \frac{-1}{2} \quad 0 \leq \theta < 2\pi$
 - e) $\tan \theta = -1 \quad 0 \leq \theta < 2\pi$
 - f) $\sec \theta = -1 \quad 0 \leq \theta < 2\pi$
- 3) Find the other 5 trig functions if $\tan \theta = \frac{4}{3}$ and $\sin \theta < 0$.

Find the reference angles for the following. (you can use your calculator for part a)

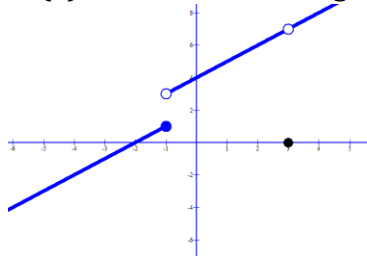
- 4a) 7.25
- b) 231°
- c) $\frac{7\pi}{5}$

Evaluate.

- 5a) $\tan(\csc^{-1}(-1))$
- b) $\sin\left(\arccos\left(-\frac{\sqrt{3}}{2}\right)\right)$

Given the graph of $f(x)$. Find the following.

- 6a) $\lim_{x \rightarrow -1} f(x)$
- b) $\lim_{x \rightarrow 3} f(x)$



- 7) If the derivative of $f(x) = 2x^2 + 3x$ is $\frac{dy}{dx} = 4x + 3$, find the slope of the tangent line at the point $(-1, -1)$.

You may now use a calculator.

Find θ to 2 decimal place accuracy

- 8a) $\cos \theta = -0.2345, 0 \leq \theta < 2\pi$
- b) $\tan \theta = -4.523, 0 \leq \theta < 2\pi$
- c) $\sin \theta = 1.432, 0 \leq \theta < 2\pi$
- d) $\sin \theta = -0.7698, 0^\circ \leq \theta < 360^\circ$
- e) $\sin \theta = 2.324, 0^\circ \leq \theta < 360^\circ$
- f) $\tan \theta = -0.4950, 0^\circ \leq \theta < 360^\circ$

Evaluate to 3 decimal accuracy in radians

- 9a) $\sin^{-1}(-0.5364)$
- b) $\tan^{-1}(5.364)$
- c) $\cos^{-1}(-\sqrt{2})$

Evaluate to 3 decimal place accuracy.

- 10a) $\tan 3.56$
- b) $\csc(-145^\circ)$
- c) $\cot\left(\frac{3\pi}{5}\right)$

Convert to radians. Answer in exact form.

- 11a) 212°
- b) 315°

Convert to degrees. Round to 2 decimal places

- 12a) 7.63
- b) 4
- c) $\frac{15\pi}{7}$

- 13) A 30 meter line is used to tether a helium-filled balloon. Because of a breeze, the line makes an angle of approximately 75° with the ground. Find the height of the balloon.