Unit 8 Review – Secondary 3 Honors

PreCalc book:

p. 346 111-114, 116, 122, 135, 137, 143, 144
p. 461 13, 15, 19, 36
p. 465 1-7

No calculator!!! Give exact answers.

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

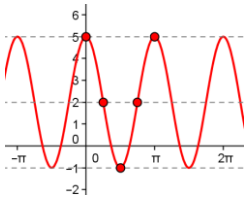
Find θ in the given interval.

2a) $\sin\theta = \frac{-1}{2}$ $180° \le \theta \le 270°$
b) $\cos\theta = \frac{-1}{2}$ $90° \le \theta \le 180°$
c) $\tan\theta = -1$ $\frac{\pi}{2} \le \theta \le \pi$

Calculator.

Write two equations (one sine & one cosine) for the graph.

3)



Find θ to 2 decimal place accuracy

4a) $\sin\theta = -.2345$, $0 \le \theta < 2\pi$
b) $\cos\theta = -.7698$, $0° \le \theta < 360°$
c) $\tan\theta = 2.324$, $0° \le \theta < 360°$

5) The angle of depression from the top of a tower to the base of a tree is $42°$. If the tree is 89.6 feet from the base of the tower, find the height of the tower. Round to 3 decimal places.

6) A lighthouse keeper is watching a boat approach the lighthouse directly. When she first begins watching the boat, the angle of depression to the boat is $15°$. Just as the boat turns away from the lighthouse, the angle of depression to the boat is $35°$. If the height of the lighthouse is 69m, find the distance traveled by the boat as it approaches the lighthouse. Round to 2 decimal places.

Simplify the following.

7) $\dfrac{2x^2+4x-6}{2x^3-2x}$

8) $\dfrac{x^2-4x-5}{x^2-x-12} \div \dfrac{2x-10}{x^2-4x}$

9) $\dfrac{x^2+x}{2x} \cdot \dfrac{4}{x^2-2x-3}$

Factor the following.

10) $4x^2+5x-6$
11) $18x^2-2$
12) $15x^2+8x-16$
13) $3x^2+10x-8$
14) $42x^2+35x+7$