**Name Pre-Calculus Final Exam Review #1**

**Topics for Precalculus Midterm 2020: My Seat/Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**1)** Find the exact value of$\cos(\frac{π}{12})$.

**2)** Solve for all values of x in the interval 0 ≤ θ < $2π$.

**2sin2θ - sinθ - 1 = 0**

**3)** Solve for all values θ in the interval 0 ≤ θ < $2π$.

**2sin2θ + 3cosθ – 3 = 0**

**4)** What is expressed in simplest form?

**5)** The expressionis equivalent

**6)** The expressionis equivalent to

**7)** The expressionis equivalent to

**8)**  a) Find the exact value of 

b) Find the exact value of 

**9)**

) A) The accompanying diagram shows a triangular plot of land that is part of Mrs. Dounias' garden. She needs to change the dimensions of this part of the garden, but she wants the area to stay the same. She increases the length of side AC to 22.5 feet. If angle A remains the same, by how many feet should side AB be *decreased* to make the area of the new triangular plot of land the same as the current one?



 B) If the terminal side of an angle of  radians passes through the point

  on a unit circle, find the value of tan.

**10)** Using $f\left(x\right)=-2\sin(\left[2\left(x-\frac{π}{4}\right)\right])+2$

1. State the amplitude\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. State the period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Horizontal shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Vertical shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Sketch f(x), in the interval  on the grid below.

f) State the ***range*** of the graph, in the given interval, sketched in part e \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 g) Name f(x) as a Cosine curve: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

