**5-5 Practice**

**Find the values of sin 2*θ*, cos 2*θ*, and tan 2*θ* for the given value and interval.**

 **1.** sin *θ* = $\frac{12}{13}$, (0°, 90°) **2.** tan *θ* = $\frac{1 }{2}, \left(π, \frac{3π}{2}\right)$

 **3.** cos *θ* = $\frac{2}{5}$, $\left(-\frac{π}{2}, 0\right)$ **4.** tan *θ* = – $\sqrt{3}$ , $\left(\frac{π}{2}, π\right)$

**Solve each equation on the interval [0, 2π).**

 **5.**  cos2 *θ +*2 $cos^{2}$ *θ* = 0 **6.** 2 $cos^{2}$ $\frac{θ}{2}$ – 3 cos *θ* = 0

**Find the exact value of each expression.**

**7.** tan 22.5° **8.** cos $\frac{11π}{12}$

**9.** Solve cos *θ* sin 2*θ* = 0 on the interval [0, 2π).

**10. BASEBALL** A batter hits a ball with an initial velocity $v\_{0}$ of 100 feet per second at an angle *θ* to the horizontal.
An outfielder catches the ball 200 feet from home plate. Find *θ* if the range of a projectile is given by the formula

 *R* = $\frac{1}{32}$ $v\_{0}^{2}$ sin 2*θ*.

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