

$$\sqrt{1 - \cos^2 \theta}$$

10) $\cos \theta = \frac{3}{5}$
 $1 - \left(\frac{3}{5}\right)^2$
 $1 - \frac{9}{25} = \frac{16}{25}$
 $\sin \theta = \frac{4}{5}$

a) $2 \sin \theta \cos \theta$
 $2 \cdot \frac{4}{5} \cdot \frac{3}{5}$
 $\frac{24}{25}$

b) $\cos 2\theta = \cos^2 \theta - \sin^2 \theta$
 $\left(\frac{3}{5}\right)^2 - \left(\frac{4}{5}\right)^2$
 $\frac{9}{25} - \frac{16}{25}$
 $-\frac{7}{25}$

c) $\sin \theta / 2$
 $\pm \sqrt{\frac{1 - \cos \theta}{2}}$
 $\pm \sqrt{\frac{1 - 3/5}{2}}$
 $\pm \sqrt{\frac{2/5}{2}}$
 $\pm \sqrt{1/5}$

d) $\cos \theta / 2$
 $\pm \sqrt{\frac{1 + \cos \theta}{2}}$
 $\pm \sqrt{\frac{1 + 3/5}{2}}$
 $\pm \sqrt{\frac{8/5}{2}}$
 $\pm \sqrt{4/5}$

17) $\sin \theta = \frac{3}{5}$
 $\cos \theta = \frac{4}{5}$
 $\tan \theta = \frac{3}{4}$

a) $2 \cdot \frac{3}{5} \cdot \frac{4}{5}$
 $\frac{24}{25}$

b) $\left(\frac{4}{5}\right)^2 - \left(\frac{3}{5}\right)^2$
 $\frac{16}{25} - \frac{9}{25}$
 $\frac{7}{25}$

c) $\frac{24/25}{7/25}$
 $\frac{24}{7}$

18) $\sin t = \frac{7}{25}$
 $\cos t = \frac{24}{25}$
 $\tan t = \frac{7}{24}$

a) $\sin 2t$
 $2 \cdot \frac{7}{25} \cdot \frac{24}{25}$
 $\frac{336}{625}$

b) $\cos 2t$
 $\left(\frac{24}{25}\right)^2 - \left(\frac{7}{25}\right)^2$
 $\frac{576}{625} - \frac{49}{625}$
 $\frac{527}{625}$

c) $\tan 2t$
 $\frac{336}{625} \div \frac{527}{625}$
 $\frac{336}{527}$