c) $tg(x-y) = \dfrac{tg x - tg y}{1 + tg x \, tg y}$

$$= \dfrac{-\frac{12}{5} - \frac{4}{3}}{1 + \left(-\frac{12}{5}\right)\left(\frac{4}{3}\right)}$$

$$= \dfrac{\frac{-56}{15}}{1 - \frac{16}{5}} = \dfrac{\frac{-56}{15}}{\frac{-11}{5}}$$

$$= \dfrac{56}{15_3} \cdot \dfrac{\cancel{5}}{11} = \dfrac{56}{33}$$

14.

a) $\sin 50° \cos 20° - \cos 50° \sin 20° =$

$= \sin(50° - 20°)$

$= \sin 30° = \dfrac{1}{2}$

b) $\cos \dfrac{\pi}{7} \cos \dfrac{4\pi}{21} - \sin \dfrac{\pi}{7} \sin \dfrac{4\pi}{21} =$

$= \cos\left(\dfrac{\pi}{7} + \dfrac{4\pi}{21}\right)$

$= \cos\left(\dfrac{7\pi}{21}\right) = \cos\left(\dfrac{\pi}{3}\right) = \dfrac{1}{2}$

c) $\dfrac{tg\,7° + tg\,8°}{1 - tg\,7°\,tg\,8°} = tg(7° + 8°)$

$= tg\,15°$

$tg\,15° = tg(45° - 30°)$

$= \dfrac{tg\,45° - tg\,30°}{1 + tg\,45°\,tg\,30°}$

$$= \dfrac{1 - \frac{1}{\sqrt{3}}}{1 + 1 \cdot \frac{1}{\sqrt{3}}} = \dfrac{\frac{\sqrt{3}-1}{\sqrt{3}}}{\frac{\sqrt{3}+1}{\sqrt{3}}}$$

$tg\,15° = \dfrac{\sqrt{3}-1}{\sqrt{3}+1}$

d) $\sin\dfrac{5\pi}{36}\cos\dfrac{5\pi}{18} + \cos\dfrac{5\pi}{36}\sin\dfrac{5\pi}{18} =$

$= \sin\left(\dfrac{5\pi}{36} + \dfrac{5\pi}{18}\right)$

$= \sin\left(\dfrac{15\pi}{36}\right) = \sin\left(\dfrac{5\pi}{12}\right)$

$\dfrac{15\pi}{36} = 75°$

$= \sin\left(\dfrac{\pi}{4} + \dfrac{\pi}{6}\right)$

$= \sin\dfrac{\pi}{4}\cos\dfrac{\pi}{6} + \sin\dfrac{\pi}{6}\cos\dfrac{\pi}{4} =$

$= \dfrac{\sqrt{2}}{2}\cdot\dfrac{\sqrt{3}}{2} + \dfrac{1}{2}\cdot\dfrac{\sqrt{2}}{2}$

$= \dfrac{\sqrt{2}}{4}\left(1 + \sqrt{3}\right)$