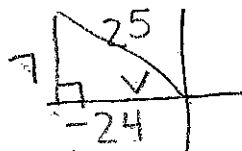
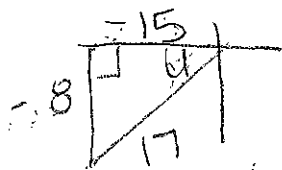


Warmup 6: Find the exact value $\tan(v-u)$ if

$$\sin u = -\frac{8}{17} \text{ when } \pi < u < \frac{3\pi}{2} \text{ and } \cos v = -\frac{24}{25} \text{ when } \frac{\pi}{2} < v < \pi$$



$$\tan(v-u)$$

$$\frac{\tan v - \tan u}{1 + \tan v \tan u} = \frac{-\frac{7}{24} - \frac{-8}{15}}{1 + \left(\frac{-7}{24}\right)\left(\frac{-8}{15}\right)} = \frac{-\frac{7 \cdot 15}{24} - \frac{8 \cdot 24}{15}}{1 + \left(\frac{-7}{24}\right)\left(\frac{8}{15}\right)}$$

$$= \frac{-\frac{105}{24} - \frac{192}{15}}{1 - \frac{56}{360}} = \frac{-\frac{297}{360}}{\frac{360 - 56}{360}} = \frac{-297}{304}$$

$$\frac{304}{360}$$