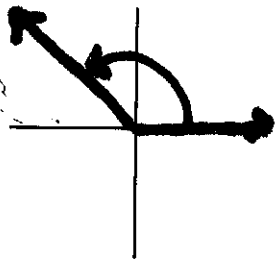Angles Review WS   NAME __Key__
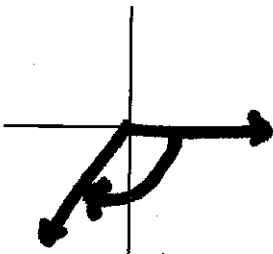
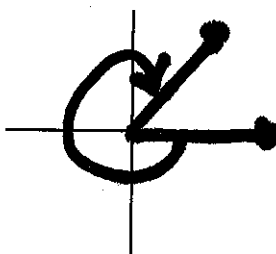I. Sketch each of the following angles in standard position.

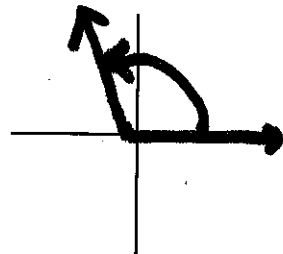1. $150°$ 2. $-120°$ 3. $-\dfrac{7\pi}{4}$ 4. $\dfrac{2\pi}{3}$

II. Determine the quadrant in which the terminal side of the angle lies.

5. $130°$ __II__   6. $-336°$ __I__   7. $285°$ __IV__

8. $-260°$ __II__   9. $\dfrac{22\pi}{3}$ __III__   10. $\dfrac{7\pi}{5}$ __III__

$7\dfrac{1\pi}{3}$ $1\dfrac{2\pi}{5}$

III. Express each of the following in radian measure. Leave your answer in terms of π.

11. $150°$ $\dfrac{5\pi}{6}$ 12. $315°$ $\dfrac{7\pi}{4}$ 13. $-240°$ $\dfrac{-4\pi}{3}$

$150 \cdot \dfrac{\pi}{180} = \dfrac{15\pi}{18}$ $315 \cdot \dfrac{\pi}{180} = \dfrac{315\pi}{180}$ $-240 \cdot \dfrac{\pi}{180} = \dfrac{-24\pi}{18}$

IV. Express each of the following in degree measure.

14. $\dfrac{5\pi}{9}$ $100°$ 15. $-\dfrac{7\pi}{12}$ $-105°$ 16. $\dfrac{11\pi}{5}$ $396°$

$\dfrac{5\pi}{9} \cdot \dfrac{\overset{20}{180}}{\pi} =$ $-\dfrac{\pi}{12} \cdot \dfrac{180}{\pi} = \dfrac{-1260}{12}$ $\dfrac{11\pi}{5} \cdot \dfrac{\overset{36}{180}}{\pi} =$
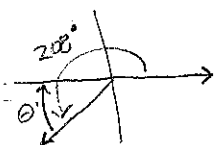
V. Find the reference angle for each of the following.

17. $\dfrac{7\pi}{4}$ $\dfrac{\pi}{4}$ 18. $\dfrac{14\pi}{5}$ $\dfrac{\pi}{5}$

$\dfrac{7\pi}{4}$ θ' $2 - \dfrac{7\pi}{4}$ $2\dfrac{4\pi}{5}$ θ' $\dfrac{4\pi}{5}$ $3\pi - \dfrac{14\pi}{5}$

$\dfrac{8\pi}{4} - \dfrac{7\pi}{4}$ $\dfrac{15\pi}{5} - \dfrac{14\pi}{5}$

19. $208°$ $28°$ 20. $-445°$ $85°$

    $208°$ 445
θ' -360 $85°$

$\dfrac{208}{-180}$