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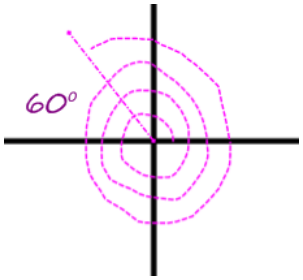
P. 190

Quelle est la mesure de l'angle principal qui est coterminal à chaque angle?

49. 1200°



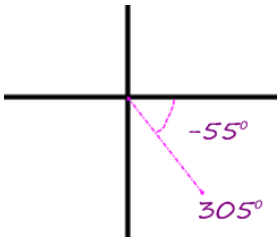
$\frac{1200}{360} = 3,3$

$1200 \times 3 = 1080°$

$1200 - 1080 = 120°$

Indique le plus grand angle négatif qui est coterminal à chaque angle.

59. 305°



Trouve les valeurs exactes de $\sin\theta, \cos\theta, \tan\theta$ si le côté terminal de $\prec \theta$ est en position standard et contient le point indiqué.

5. P(−8,15)

$r^2 = x^2 + y^2$

$r^2 = (-8)^2 + (15)^2$

$r^2 = 289$

$r = 17$

$\sin\theta = \frac{15}{17}$

$\cos\theta = \frac{-8}{17}$

$\tan\theta = \frac{-15}{8}$

8. P(4,4)

$r^2 = x^2 + y^2$

$r^2 = (4)^2 + (4)^2$

$r^2 = 32$

$r = 4\sqrt{2}$

$\sin\theta = \frac{4}{4\sqrt{2}} = \frac{1}{\sqrt{2}}$

$\cos\theta = \frac{4}{4\sqrt{2}} = \frac{1}{\sqrt{2}}$

$\tan\theta = \frac{4}{4} = 1$

12. P(6,3)

$r^2 = x^2 + y^2$

$r^2 = (6)^2 + (3)^2$

$r^2 = 45$

$r = 3\sqrt{5}$

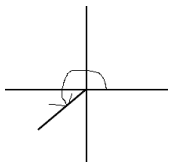
$\sin\theta = \frac{3}{3\sqrt{5}} = \frac{1}{\sqrt{5}}$

$\cos\theta = \frac{6}{3\sqrt{5}} = \frac{2}{\sqrt{5}}$

$\tan\theta = \frac{3}{6} = \frac{1}{2}$

Soit $\prec \theta$ qui est en position standard dans le côté terminal se trouve dans le quadrant indiqué. Trouve les valeurs exactes des cinq autres rapports trigonométriques.

23. $\tan\theta = 3/5$, quadrant III.



$x = -5$

$y = -3$

$r^2 = x^2 + y^2$

$r^2 = (-3)^2 + (-5)^2$

$r^2 = 34$

$r = \sqrt{34}$

$\sin\theta = \frac{-3}{\sqrt{34}}$ $\quad \cos ec\theta = \frac{\sqrt{34}}{-3}$

$\cos\theta = \frac{-5}{\sqrt{34}}$ $\quad \sec\theta = \frac{\sqrt{34}}{-5}$

$\tan\theta = \frac{3}{5}$ $\quad \cot\theta = \frac{5}{3}$

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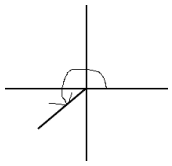
24. $\sec\theta = {}^{-8}/_{5}$, quadrant III.



$r = 8$

$x = -5$

$r^2 = x^2 + y^2$

$(8)^2 = (-5)^2 + y^2$

$64 - 25 = y^2$

$39 = y^2$

$y = -\sqrt{39}$

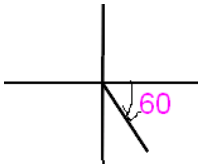
$\sin\theta = \frac{-\sqrt{39}}{8}$ $\quad \operatorname{cosec}\theta = \frac{-8}{\sqrt{39}}$

$\cos\theta = \frac{-5}{8}$ $\quad \sec\theta = \frac{-8}{5}$

$\tan\theta = \frac{\sqrt{39}}{5}$ $\quad \operatorname{cotan}\theta = \frac{5}{\sqrt{39}}$

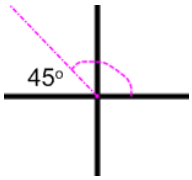
Écris la valeur exacte de chaque expression.

31. $\sec(-60°)$



$= \frac{1}{\cos(-60°)} = \frac{1}{{}^{1}/_{2}} = 2$

32. $\sin(135°)$



$= \frac{\sqrt{2}}{2}$