

6.3 day 3 (fixed).notebook

Warm up

1. A hamster in a six inch diameter wheel runs at a speed of 250 ft/min. How many revolutions is the wheel turning per second?
2. What is the reference angle for
 - a. -97°
 - b. $\frac{2\pi}{3}$
3. What quadrant is θ in if $\sin \theta > 0$ and $\tan \theta < 0$?
4. Find the exact values of the following.
 - a. $\sin \frac{4\pi}{3}$
 - b. $\cos \frac{7\pi}{4}$
 - c. $\sec \frac{5\pi}{6}$
 - d. $\cot 120^\circ$

Apr 2-3:03 PM


Workbook Answers

1. 16.66π mph or 52.36 mph
2. 387.85 rev/min
3. 12566 teeth
- 4a. 4.5π rad/sec or 14.137 rad/sec
 - b. 5.4π in/sec or 16.96 in/sec
 - c. 2.7π in/sec or 8.48 in/sec

Apr 11-6:20 AM

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GO COUGARS!



p 484 **Homework Questions**

In Exercises 11–14, state the quadrant in which θ lies.

11. $\sin \theta < 0$ and $\cos \theta < 0$
12. $\sin \theta > 0$ and $\cos \theta > 0$
13. $\sin \theta > 0$ and $\tan \theta < 0$
14. $\sec \theta > 0$ and $\cot \theta < 0$

In Exercises 37–44, find the reference angle θ' , and sketch θ and θ' in standard position.


37. $\theta = 203^\circ$
39. $\theta = -245^\circ$
41. $\theta = \frac{2\pi}{3}$
43. $\theta = 3.5$

In Exercises 45–58, evaluate the sine, cosine, and tangent of the angle without using a calculator.

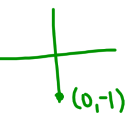
45. 225°
47. 750°
49. -150°
51. $\frac{4\pi}{3}$
53. $-\frac{\pi}{6}$
55. $\frac{11\pi}{4}$

In Exercises 91–98, find the point (x, y) on the unit circle that corresponds to the real number t . Use the result to evaluate $\sin t$, $\cos t$, and $\tan t$.

91. $t = \frac{\pi}{4}$
93. $t = \frac{5\pi}{6}$
95. $t = \frac{4\pi}{3}$
97. $t = \frac{3\pi}{2}$



$3.5 - 3.14 = .36$



$\sin \frac{3\pi}{2} = -1$
 $\cos \frac{3\pi}{2} = 0$
 $\tan \frac{3\pi}{2} = \text{und}$

Feb 2-9:51 PM

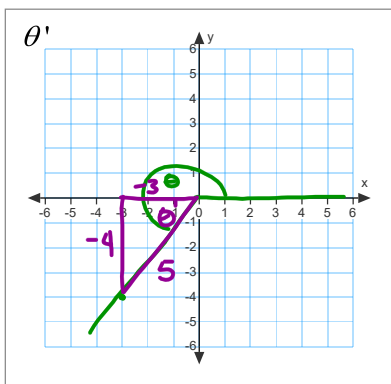
6.3 Day 3

Find the 6 trig ratios given a point on the terminal side of an angle

Find angles given a common ratio

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Let $(-3, -4)$ be a point of the terminal side of an angle.
Find the 6 trig ratios for θ .

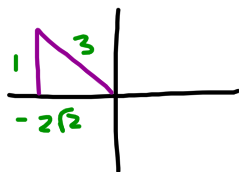


$$\begin{aligned}\sin \theta &= -\frac{4}{5} \\ \cos \theta &= -\frac{3}{5} \\ \tan \theta &= \frac{4}{3} \\ \sec \theta &= -\frac{5}{3} \\ \cot \theta &= \frac{3}{4} \\ \csc \theta &= -\frac{5}{4}\end{aligned}$$

1. Plot the point
2. Make a triangle with the x-axis
3. Label the sides you know
4. Find the missing side
5. Find the requested values

Apr 5-10:17 AM

If $\sin \theta = \frac{1}{3}$ in QII find $\cos \theta$ and $\cot \theta$



$$\cos \theta = -\frac{2\sqrt{2}}{3}$$

$$\cot \theta = -2\sqrt{2}$$


Apr 15-1:27 PM

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Finding theta given a ratio

If $\sin \theta = \frac{1}{2}$ Find θ in degrees

$\sin \theta$ is positive in QI QII $RA \theta = 30$



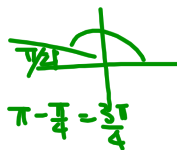
If $\tan \theta = -1$ Find θ in radians

$\tan \theta$ is negative in II IV

RA $\tan \theta = 1$ (drop negative to get reference angle)

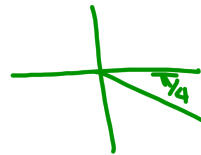
$RA \theta = \frac{\pi}{4}$

→ QII QIV



$\frac{3\pi}{4}$

$\frac{7\pi}{4}$



$2\pi - \frac{\pi}{4} = \frac{7\pi}{4}$

Apr 5-10:18 AM

HOMWORK



p 484 # 1, 3, 5, 15-23 odd, 29-36 all,
69-73 odd, 85-89 odd

WB p 122

Values Quiz on whole circle - MONDAY

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