KEY

Trigonometry Review 2

1. For the following triangle, calculate the values of the six trigonometric functions for the given angle. (Leave your answer as a ratio)

$\sin\theta = \frac{8}{10}$ $\quad \csc\theta = \frac{10}{8}$

$\cos\theta = \frac{6}{10}$ $\quad \sec\theta = \frac{10}{6}$

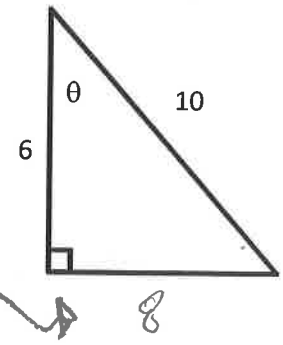
$\tan\theta = \frac{8}{6}$ $\quad \cot\theta = \frac{6}{8}$

$6^2 + x^2 = 10^2$

$36 + x^2 = 100$

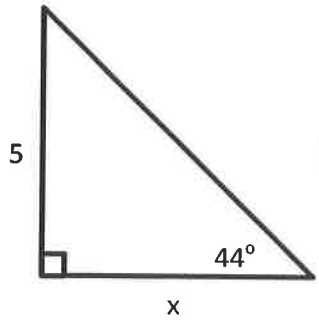
$x^2 = 64$

$x = 8$



Solve for the missing variable:

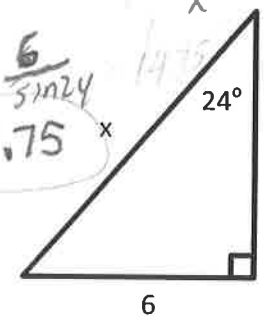
2.



$\tan 44 = \frac{5}{x}$

$x = \frac{5}{\tan 44} = 5.177$

3.

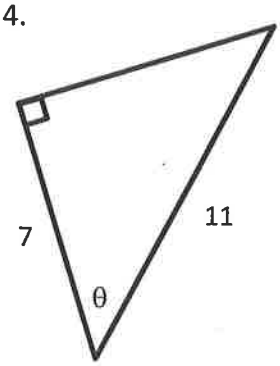


$\sin 24 = \frac{6}{x}$

$x = \frac{6}{\sin 24}$

$= 14.75$

4.



$\cos\theta = \frac{7}{11}$

$\theta = \cos^{-1}\frac{7}{11}$

$\theta = \cos^{-1}(.6363)$

$\theta = 50.48°$

Express in Radians: 5. 67°

$67° \cdot \frac{\pi}{180°} = 1.17$

6. 120°

$120° \cdot \frac{\pi}{180°} = 2.09 = \frac{2\pi}{3}$

Express in Degrees: 7. $\frac{\pi}{3}$

$\frac{\pi}{3} \cdot \frac{180°}{\pi} = 60°$

8. $\frac{2\pi}{7}$

$\frac{2\pi}{7} \cdot \frac{180}{\pi} = 51.42°$

Evaluate

9. cos 2.7

-.904

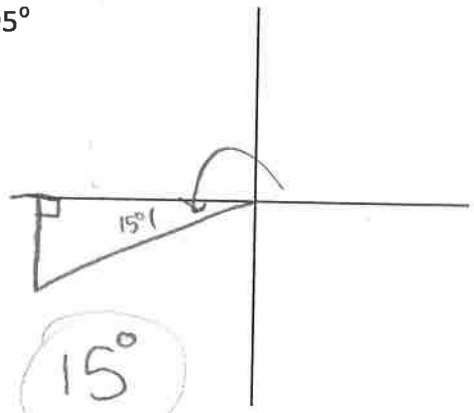
10. tan 33°

0.052

11. $\sin^{-1} 0.56$ = 34.05°

Draw the following angles and state the reference angle:

12. 195°

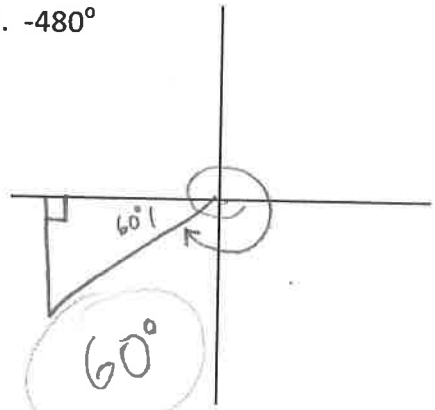


III

15°

13. -480°

480
−360
120



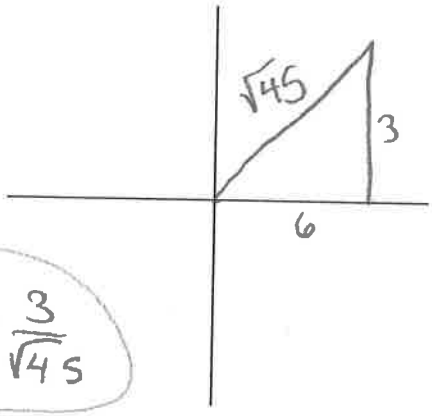
III

60°

Draw a triangle that satisfies the given information and find the value of $sin\theta$:

14. $Quadrant = I, \quad tan\theta = \frac{3}{6}$

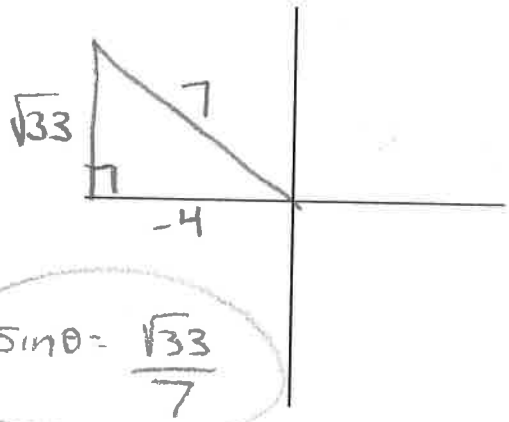
$3^2 + 6^2$
$= 9 + 36$
$= 45$



$\sin\theta = \frac{3}{\sqrt{45}}$

15. $Quadrant = II, \quad cos\theta = -\frac{4}{7}$

$a^2 + (-4)^2 = 7^2$
$a^2 + 16 = 49$
$a^2 = 33$
$a = \sqrt{33}$



$\sin\theta = \frac{\sqrt{33}}{7}$

State the amplitude, period, midline and phase shift of the following graphs:

16. $y = 5\cos(x + 45^\circ) + 2$

Amp. 5

Period = 360

Midline 2

P.S. -45°

17. $y = 8tan4x + 2$

Amp None

Period 180/4 = 45

Midline 2

P.S. 0