

Trig Test Review Guide – DO ALL WORK ON SEPARATE PAPER

Test: Friday, May 11, 2018

Write each measure in radians. Express your answer in terms of π .

1. 78° $13\pi/30$ 2. 55° $11\pi/36$

Write each measure in degrees.

3. $\frac{14\pi}{23}$ 109.5 4. $\frac{6\pi}{47}$ 22.98

(a) Calculate a coterminal angle satisfying $0^\circ \leq \theta \leq 360^\circ$.

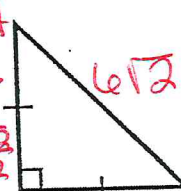
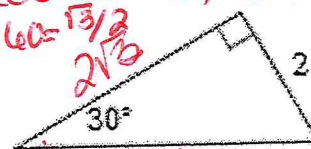
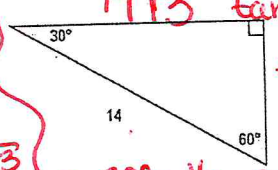
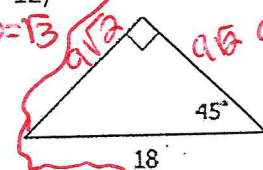
(b) Sketch the coterminal angle in standard position.

(c) Calculate the reference angle of the coterminal angle.

- 5) 780° 60° $RA=60^\circ$ 6) -675° 45° $RA=45^\circ$ 7) $\frac{8\pi}{3}$ 120° $RA=60^\circ$ 8) $-\frac{17\pi}{6}$ 150° $RA=30^\circ$

(a) List all of the sides of each triangle. Label them on your paper as "long leg", "short leg", "hypotenuse" or "legs".

(b) Use your answers to find the sine, cosine and tangent of angle A and angle B.

- 9)  $\sin A = \frac{6}{10} = \frac{3}{5}$, $\cos A = \frac{2}{10} = \frac{1}{5}$, $\tan A = \frac{3}{1}$
10)  $\sin 60^\circ = \frac{\sqrt{3}}{2}$, $\cos 60^\circ = \frac{1}{2}$, $\tan 60^\circ = \sqrt{3}$
11)  $\sin 30^\circ = \frac{1}{2}$, $\cos 30^\circ = \frac{\sqrt{3}}{2}$, $\tan 30^\circ = \frac{1}{\sqrt{3}}$
12)  $\sin 45^\circ = \frac{\sqrt{2}}{2}$, $\cos 45^\circ = \frac{\sqrt{2}}{2}$, $\tan 45^\circ = 1$

(a) Sketch each angle in standard position.

(b) Determine the reference angle.

(c) Sketch the reference triangle and correctly label each side.

(d) Find the exact value for the sine, cosine, and tangent of the original angle.

- 13) 210° $RA=30^\circ$ $\sin 210 = -\frac{1}{2}$, $\cos 210 = -\frac{\sqrt{3}}{2}$, $\tan 210 = \frac{\sqrt{3}}{3}$
14) 135° $RA=45^\circ$ $\sin 135 = \frac{\sqrt{2}}{2}$, $\cos 135 = -\frac{\sqrt{2}}{2}$, $\tan 135 = -1$
15) -60° $RA=60^\circ$ $\sin -60 = -\frac{\sqrt{3}}{2}$, $\cos -60 = \frac{1}{2}$, $\tan -60 = -\sqrt{3}$
16) $\frac{5\pi}{4}$ $RA=45^\circ$ $\sin \frac{5\pi}{4} = -\frac{\sqrt{2}}{2}$, $\cos \frac{5\pi}{4} = -\frac{\sqrt{2}}{2}$, $\tan \frac{5\pi}{4} = 1$
17) $\frac{5\pi}{3}$ $RA=60^\circ$ $\sin \frac{5\pi}{3} = -\frac{1}{2}$, $\cos \frac{5\pi}{3} = \frac{\sqrt{3}}{2}$, $\tan \frac{5\pi}{3} = -\frac{1}{\sqrt{3}}$
18) $-\frac{7\pi}{6}$ $RA=30^\circ$ $\sin -\frac{7\pi}{6} = \frac{1}{2}$, $\cos -\frac{7\pi}{6} = -\frac{\sqrt{3}}{2}$, $\tan -\frac{7\pi}{6} = -\frac{1}{\sqrt{3}}$

Solve for all possible of θ , where $0^\circ \leq \theta \leq 360^\circ$.

- 25) $\sin \theta = \frac{1}{\sqrt{2}}$ $45^\circ, 135^\circ$ 26) $\cos \theta = \frac{\sqrt{3}}{2}$ $30^\circ, 330^\circ$ 27) $\tan \theta = \frac{1}{\sqrt{3}}$ $30^\circ, 210^\circ$ 28) $\sin \theta = \frac{-1}{2}$ $210^\circ, 330^\circ$ 29) $\tan \theta = -\sqrt{3}$ $120^\circ, 300^\circ$
30) $4\cos \theta = 2$ $60^\circ, 300^\circ$ 31) $2\cos \theta + 3 = 2$ $120^\circ, 240^\circ$ 32) $-3\tan \theta = 3$ $135^\circ, 315^\circ$ 33) $4\sin \theta - 2\sqrt{3} = 0$ $60^\circ, 120^\circ$