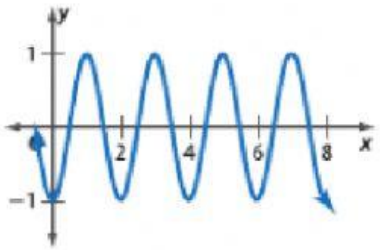
GRADE 10th Revision Worksheet

1. Determine the period of each function



a. 1 b. 2

c. 3 d. 4

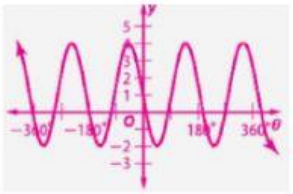
2. A wheel with a diameter of 18 centimeters completes 4 revolutions in 1 minute. What is the period of the function that describes the height of one spot on the outside edge of the wheel as a function of time.

a. 15 b. 30

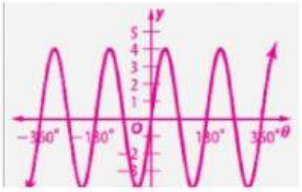
b. 45 d. 60

3. Find the correct graph for $y = 4 \sin 2\theta$

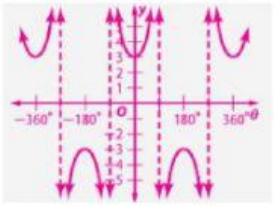
a.



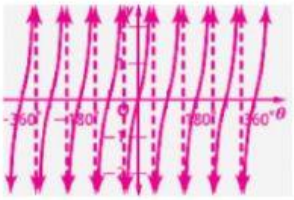
b.



c.



d.

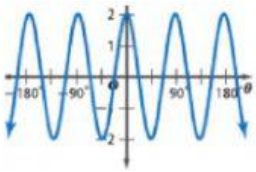


4. What angle has a tangent and sine that are both negative?

a. 65º b. 265º

c. 330º d. 120º

5. Which is the correct equation for the given graph.



a. y=sin 4θ b. y=cos 4θ

c. y=2 cos 4θ d. y=2 sin 4θ

6. Humans can hear sounds with a frequency of 40 Hz. Find the period of the function that models the sound waves.
   a. 0.05 b. 0.1
   c. 0.25 d. 0.025

7. Find the period of tan 2θ.
   a. 90 degree b. 720 degree
   c. 180 degree d. 360 degree

8. State the amplitude for $y = \frac{1}{2}\tan\left(\theta - \frac{\pi}{2}\right)$.
   a. ½ b. $\frac{\pi}{2}$
   c. 1 d. does not exist.

9. State the midline for y = sec θ – 5
   a. y=-5 b. y=5
   c. y= sec θ d. y=sec θ-5

10. The vertical shift for y=tanθ+3 is
   a. 3 units up b. 3 units down
   c. 3 units left d. 3 units right

11. Find the asymptotes for $y=\tan 2\theta$
   a. 45 degree b. all multiples of 45 degree
   c. even multiples of 45 degree d. odd multiples of 45 degree

12. Simplify the given expression $\frac{1+tan^2\theta}{tan^2\theta}$
   a. $csc^2\theta$ b. $tan^2\theta$
   c. $sin^2\theta$ d. $csc^2\theta$

13. Find tan θ if sec θ =-3, 180º<θ<270º.
   a. 2 b. 2√10
   c. 2√2 d. 5

14. simplify $\sin\left(\frac{\pi}{2} - \theta\right)\sec\theta$
   a. tan θ b. 1
   c. csc θ d. sin θ

15. Find the exact value of cos 2θ if sin θ =3/ 4 and θ is between 0° and 90°.
   a. 0.125 b.- 0.125
   c. 0.50 d. - 0.50

16. Find the exact value of tan 2θ, if cos θ =4/ 5 and θ is between 0° and 90°.
   a. 24/7 b. 5/4
   c. 7/25 d. 24/25

17. Find the exact value of sin θ/ 2 if cos θ = - 3/ 5 and θ is in the second quadrant.
   a. 2√5/5 b. -2√5/5
   c. -1/2 d. ½

18. Find sin θ/2 if tan θ = - 8/15 ; 90° < θ < 180.
   a. 4√17/17 b. 8/9
   c. √17/17 d. 3√17/17

19. cos

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19 Find all solutions for θ given interval $2\cos\theta - 1 = 0; 0 \leq \theta \leq 360.$

a. $60°$
b. $60°, 120°$
c. $60°, 300$
d. $30°$

20. Solve equation: $\cos^2\theta + 3 = 4 - \sin^2\theta$

a. 1
b. $45°$
c. no solution
d. infinitely many solution