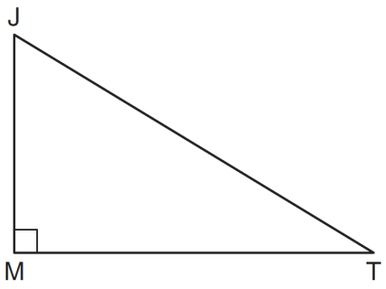
Name: _____ Exam Review

You must show all work.

1. In the diagram below of right triangle *JTM*, $JT = 12$, $JM = 6$, and $\text{m}\angle JMT = 90$.



What is the value of $\cot J$?

1) $\frac{\sqrt{3}}{3}$

2) 2

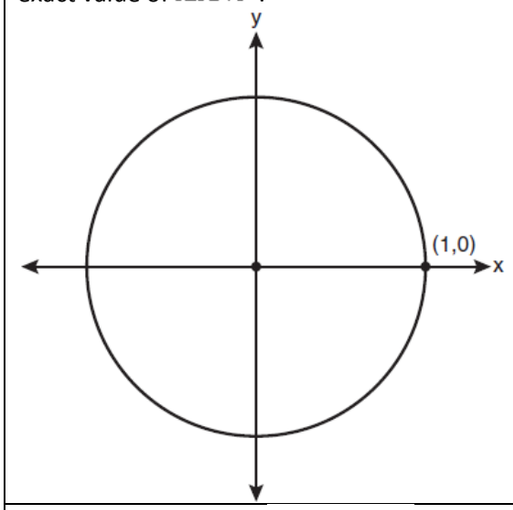
3) $\sqrt{3}$

4) $\frac{2\sqrt{3}}{3}$

2. a. Express 160° in radian measure.

b. Express in degree measure, an angle whose radian measure is $\frac{7\pi}{3}$.

3. On the unit circle shown in the diagram below, sketch an angle, in standard position, whose degree measure is 240 and find the exact value of $\sin 240°$.



4. If $\cos x = -\frac{4}{5}$ and $\tan x > 0$, then $\angle x$ terminates in Quadrant

1) I

2) II

3) III

4) IV

5. What is the value of $\tan \frac{\pi}{3} + \cos \pi$?

1) $\frac{\sqrt{3}+3}{3}$

2) $\frac{\sqrt{3}-3}{3}$

3) $\sqrt{3}-1$

4) $\sqrt{3}+1$

6. What is the value of $\sin(-240°)$?

1) $\frac{1}{2}$

2) $-\frac{1}{2}$

3) $\frac{\sqrt{3}}{2}$

4) $-\frac{\sqrt{3}}{2}$

7. Expressed as a function of a positive acute angle, $\cot(-120)°$ is equivalent to

1) $-\tan 60°$

2) $\cot 60°$

3) $-\cot 30°$

4) $\cot 30°$

8. The expression $\frac{\sin x \cdot \cos x}{\tan x}$ is equivalent to

1) 1

2) $\sin^2 x$

3) $\cos x$

4) $\cos^2 x$

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9. What is the period of the function $y = \frac{1}{2}\sin\left(\frac{x}{3} - \pi\right)$?

1) $\frac{1}{2}$

2) $\frac{1}{3}$

3) $\frac{2}{3}\pi$

4) 6π

10. Find the amplitude and period of $f(x) = -8\sin(7x)$.

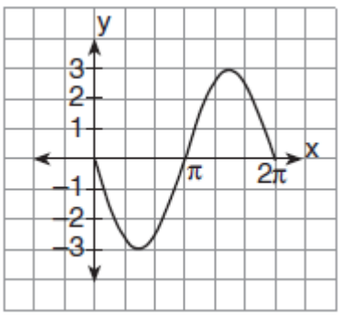
[A] amplitude = 8, period = $\frac{2}{7}\pi$

[C] amplitude = 8, period = $\frac{7}{2}\pi$

[B] amplitude = -8, period = $\frac{7}{2}\pi$

[D] amplitude = 16, period = $\frac{2}{7}\pi$

11. Which equation is represented on the graph shown below?



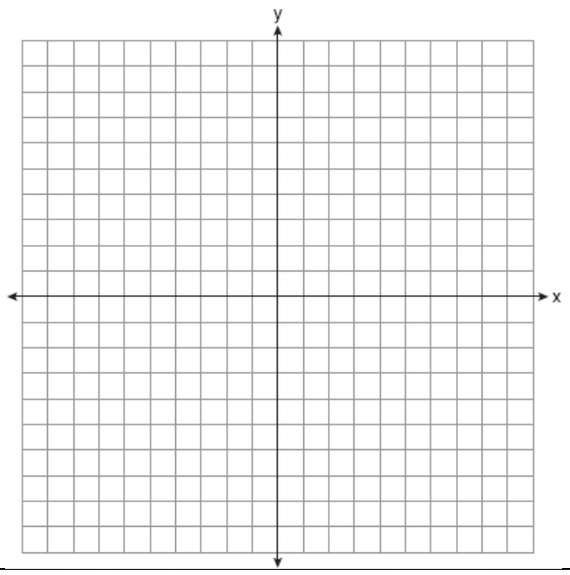
1) $y = 3\sin x$

2) $y = -3\sin x$

3) $y = 3\cos x$

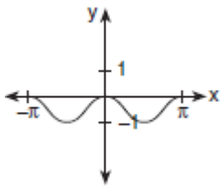
4) $y = -\sin 3x$

12. Sketch the graph of $y = 3\sin 2x$ in the interval $-\pi \le x \le \pi$.

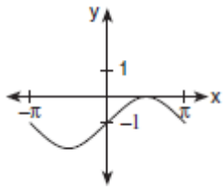


13. Which graph represents the function $f(x) = -\sin x$ in the interval $-\pi \le x \le \pi$?

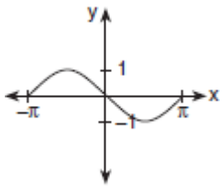
1)



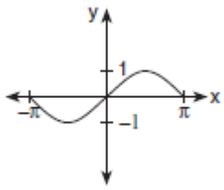
2)



3)

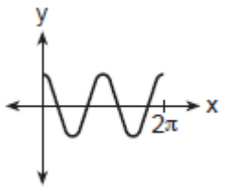


4)

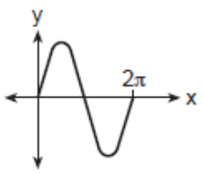


14. Which graph represents a sound wave that follows a curve whose period is π and that is in the form $y = a\sin bx$?

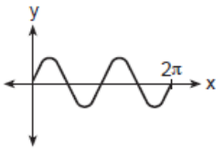
1)



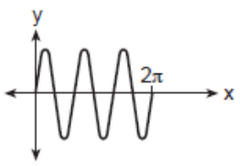
2)



3)



4)



θ	0°	30°	45°	60°	90°
sin θ					
cos θ					
tan θ					