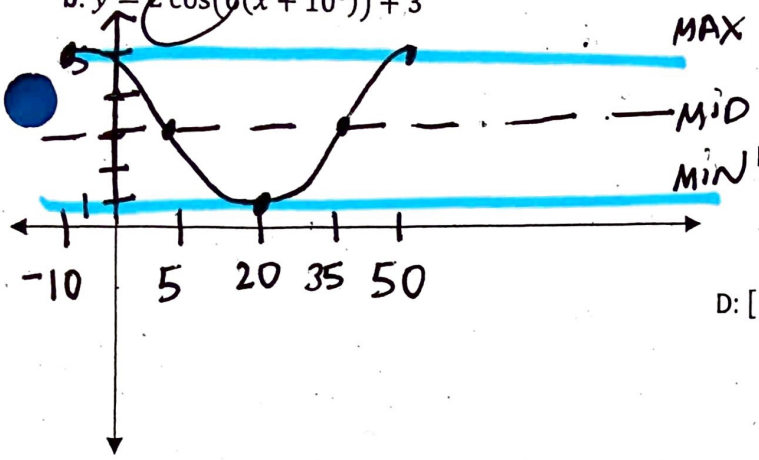
b. $y = 2\cos(6(x + 10°)) + 3$

a K



k = 6

pd = 60° $\frac{360}{6}$

ps = left 10

a = 2

vs = up 3

D: [-10 , 50]

0, 360

0, 60

[-10, 50]

R: [1 , 5]

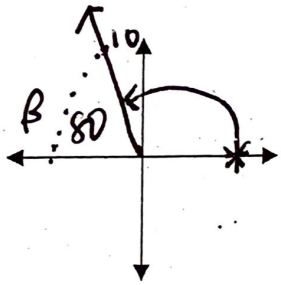
-1, 1 ×2

-2, 2 +3

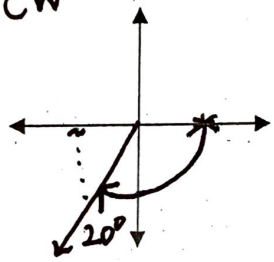
[1, 5]

7. Sketch the following angles and state the reference angle of each.

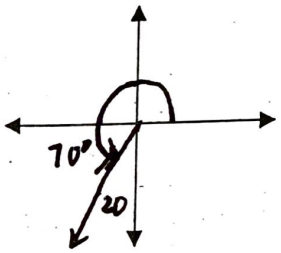
a. 100° 80° +CCW



b. −110 70° CW



c. 250° 70°



8. State 2 coterminal angles, one positive and one negative for each of the following.

a. 76° 76+360 436°, 76-360 -284°

b. −200° 160° (−200+360), −560° (−200−360)

9. Convert the following to radian measure. Keep answers exact. Show work.

a. 236° $\frac{59\pi}{45}$ $236 \cdot \frac{\pi}{180}$

b. 120° $\frac{2\pi}{3}$ $120 \cdot \frac{\pi}{180}$

10. Convert the following to degree measure. Round answers to the nearest tenth. Show work.

a. $\frac{2\pi}{5}$ 72° $\frac{2\pi}{5} \cdot \frac{180}{\pi}$

b. $\frac{5\pi}{11}$ 81.8° $\frac{5\pi}{11} \cdot \frac{180}{\pi} = \frac{5 \cdot 180}{11}$

11. Use your unit circle to find the exact value (no decimals!) of each of the following:

cos = x | tan = $\frac{y}{x}$

sin = y

a. tan 45° = $\frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}}$ = 1

b. cos 240° = $-\frac{1}{2}$

c. sin −210° $\frac{1}{2}$ +360 sin 150

d. cos 300° $\frac{1}{2}$

e. tan 270° $\frac{-1}{0}$ undefined

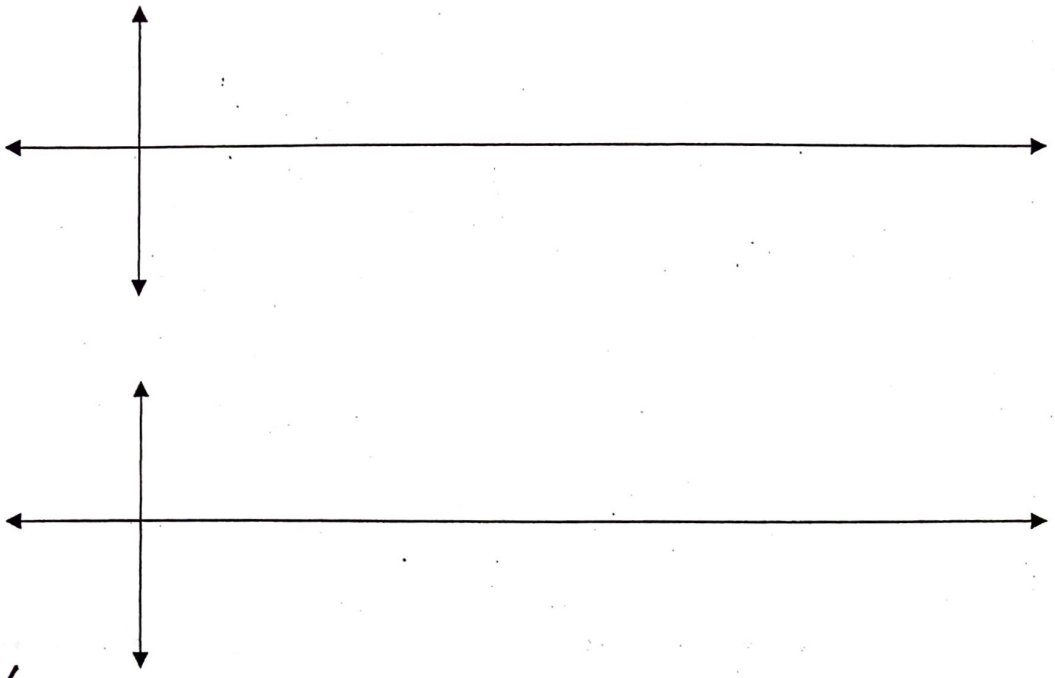
f. sin 135° = $\frac{\sqrt{2}}{2}$

g. cos −30° = $\frac{\sqrt{3}}{2}$ cos 330°

h. sin 90° = 1

Math 3: Unit 9 Test Review

1. Graph both the sine and cosine parent functions using the 5 point method for graphing. Include coordinates on the x and y axis for the 5 points.



Is sin(25°) less than, greater than or equal to sin(200°)? _____

Is cos(80°) greater then, less than or equal to cos(260°)? _____

What is the sin(90°)?_____

What is the cos(180°)? _____

p.36 3. What does it mean for an angle to have a measure of one radian?

4. Write the equation of a sine function with an amplitude of 4, a vertical shift of down 6, a phase shift of left 25°, and a period of 90°.

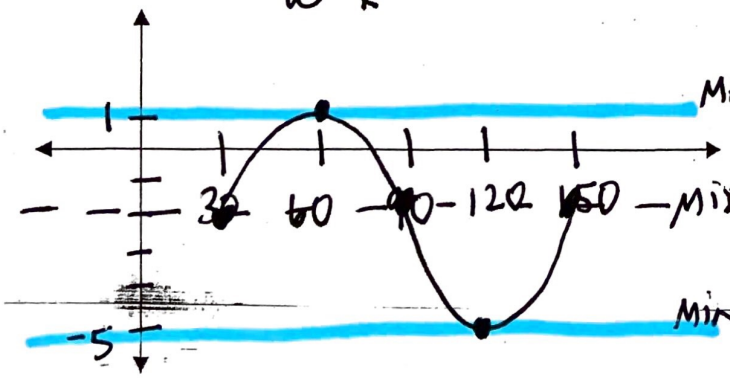
$K = \frac{360}{90} = 4$ $\quad y = 4 \sin 4(x+25) - 6$ (a, K, PS)

5. Write the equation of a sine function with an amplitude of 3, a vertical shift of up 9, a phase shift of right 35°, and a period of 120°.

$K = \frac{360}{120} = 3$ $\quad y = 3 \sin 3(x-35) + 9$ (a)

6. Graph the following functions using the 5 point graphing method.

a. $y = 3 \sin(3(x - 30°)) - 2$ (a, K)



k = 3 a = 3

pd = 120 $\frac{360}{3}$ vs = down 2

ps = right 30

D: [30 , 150] R: [-5 , 1]

[0, 360]
[0, 120]
[30, 150]

[-1, 1] x3
[-3, 3]
[-5, 1] -2

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