Name: _____ Per: _____ Date: _____
Serafino • Algebra 2E

9QR Unit 9 Quiz Review

9A, 9B & 9C

Show all work for maximum credit. Box all final answers.

1. There is an angle, Θ, $\in$ QIV, and $\sin\theta = -\frac{3}{4}$.

   a. Find the 3 trig exact ratios (no calculator)

   $\sin\Theta =$ $\cos\Theta =$ $\tan\Theta =$

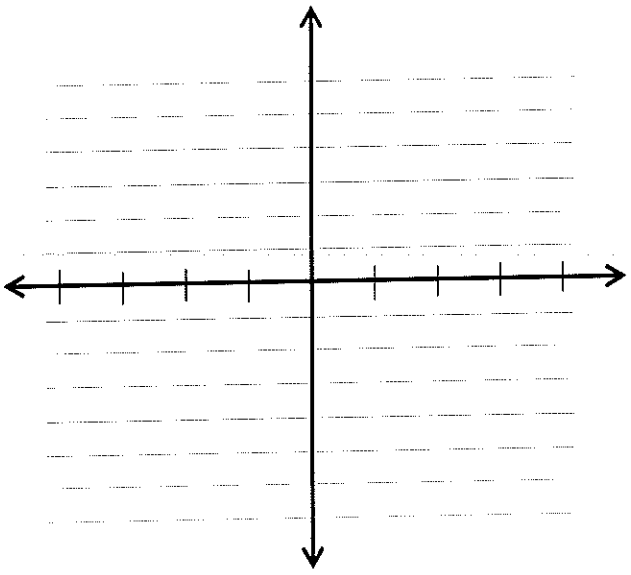
   b. Find m $\angle\Theta$

2. State the exact value of the following (no calculator):

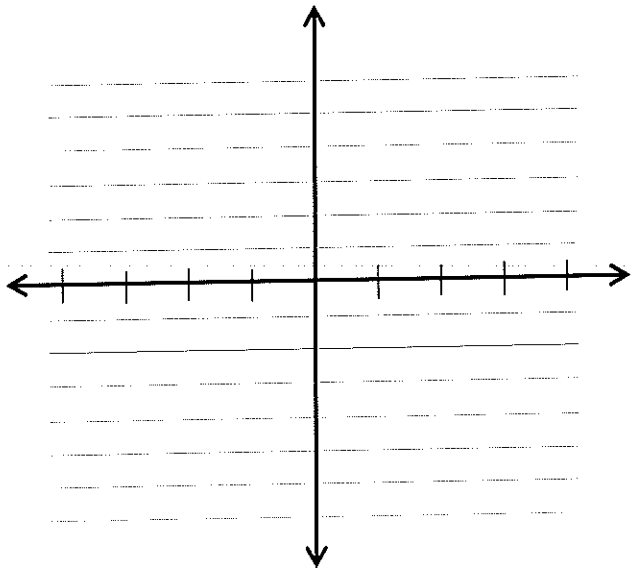
   a. $\sin 210° =$ b. $\cos 315° =$ c. $\tan -90° =$

3. Graph one period of the following:

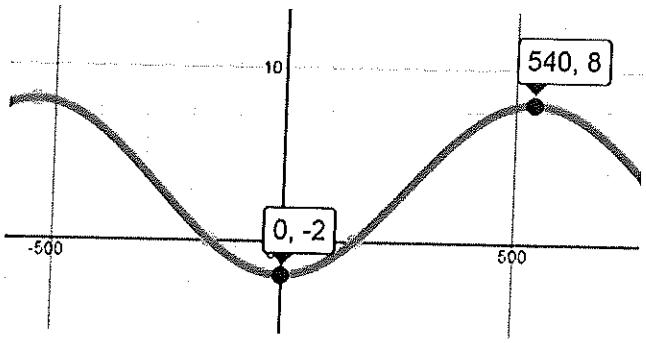
   a. $f(x) = 4 - 2\sin(10x)$

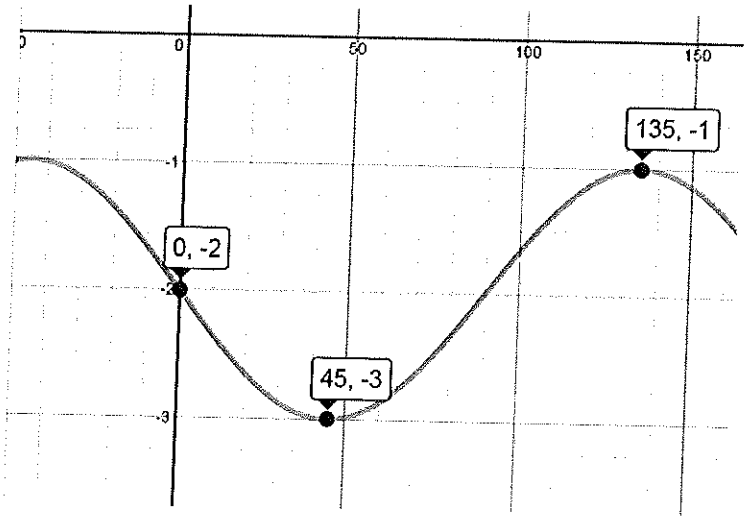


   b. $f(x) = 3\cos\left(\frac{x}{2}\right) - 2$



4. Write the equation of the following graphs:





5. The population of Willy–Woggs in a town oscillates throughout the day.

At midnight, there are 380, which is the max. At noon, there are 14, which is the min. Write a model for the number of Willy–Woggs in the down, if x = hours since midnight.

a. Function:

b. How many Willy–Woggs are there at 4 am? 8 am? 5:00 pm? 10:00 pm?

c. Use your calculator to find at what times of day there are 100 Willy–Woggs?

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9QR Unit 9 Quiz Review

9A, 9B & 9C

Show all work for maximum credit. Box all final answers.

1. There is an angle, Θ, $\in$ QIV, and $\sin\theta = -\frac{3}{4}$.

$3^2 + x^2 = 4^2$
$9 + x = 16$
$x = \sqrt{7}$

   a. Find the 3 trig exact ratios (no calculator)

sin Θ = $\frac{-3}{4}$ cos Θ = $\frac{\sqrt{7}}{4}$ tan Θ = $\frac{-3\sqrt{7}}{7}$

   b. Find m $\angle\Theta$ 311.41°

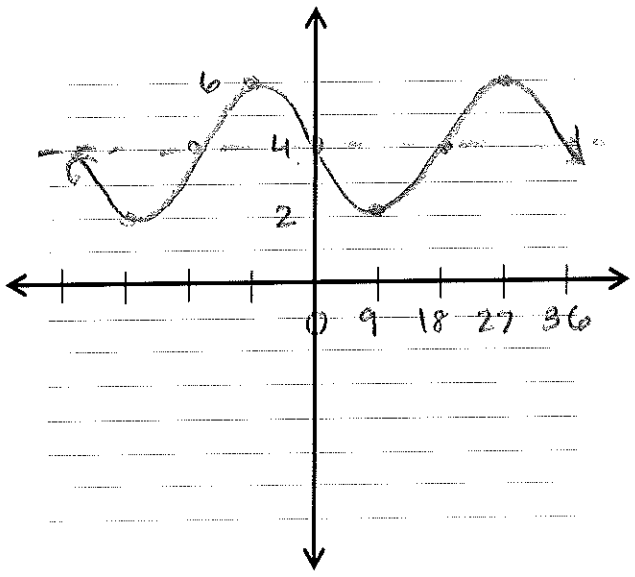
$\theta' = 48.59$

2. State the exact value of the following (no calculator):

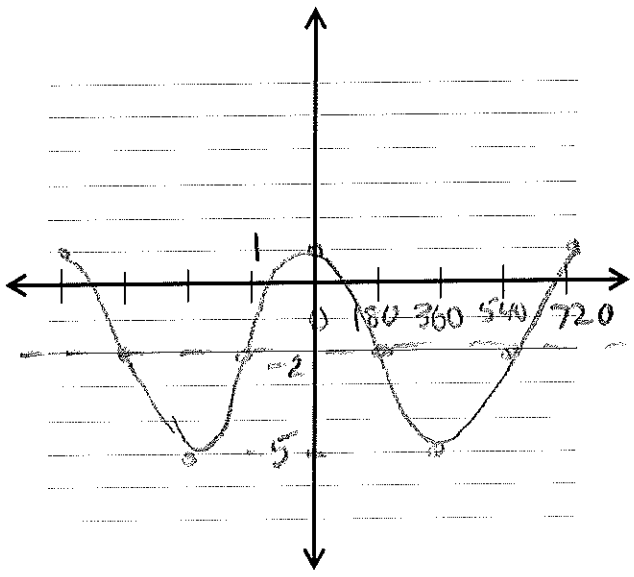
   a. sin 210 ° = $-\frac{1}{2}$ b. cos 315° = $\frac{\sqrt{2}}{2}$ c. tan –90 ° = Und

3. Graph one period of the following:

   a. $f(x) = 4 - 2\sin(10x)$

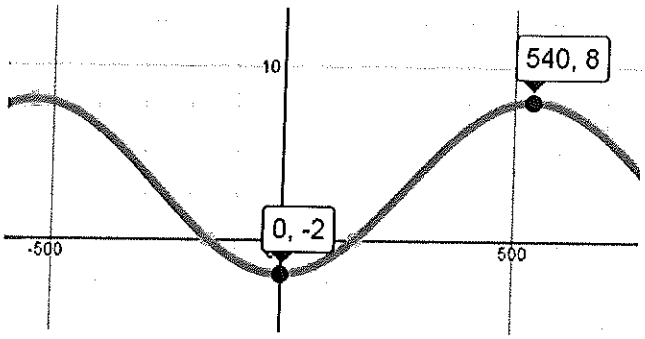


   b. $f(x) = 3\cos\left(\frac{x}{2}\right) - 2$

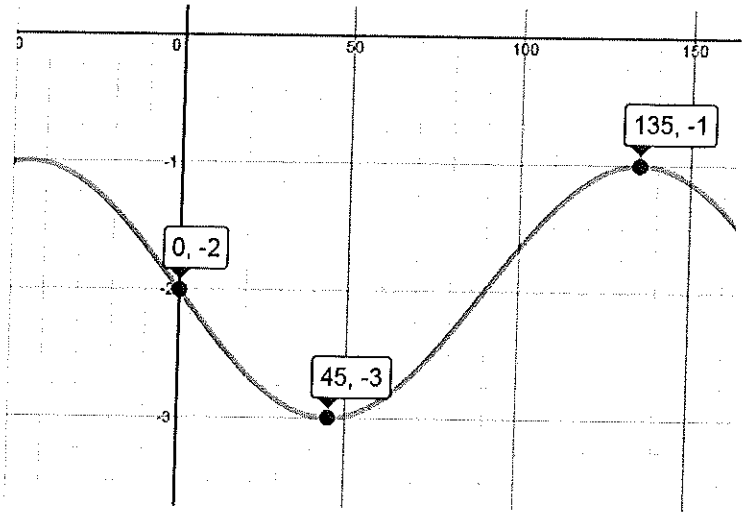


4. Write the equation of the following graphs:

$y = -5\cos\left(\frac{1}{3}x\right) + 3$



$y = -\sin(2x) - 2$



5. The population of Willy–Woggs in a town oscillates throughout the day.

At midnight, there are 380, which is the max. At noon, there are 14, which is the min. Write a model for the number of Willy–Woggs in the down, if x = hours since midnight.

a. Function: $W(x) = 183\cos(15x) + 197$

b. How many Willy–Woggs are there at 4 am? 8 am? 5:00 pm? 10:00 pm?

4 am $f(4) = 288.5$ 8 am $f(8) = 105.5$

5 pm $f(17) = 149.6$ 10 pm $f(22) = 355.48$

c. Use your calculator to find at what times of day there are 100 Willy–Woggs?

$\approx$ 8.1, 15.9

8:06 am, 3:54 pm