Bell Work

Grab a book, calculator, and finish homework from last time.

From Last Time… (12 – 15 minutes)

(if they finish before 12 minutes move on)

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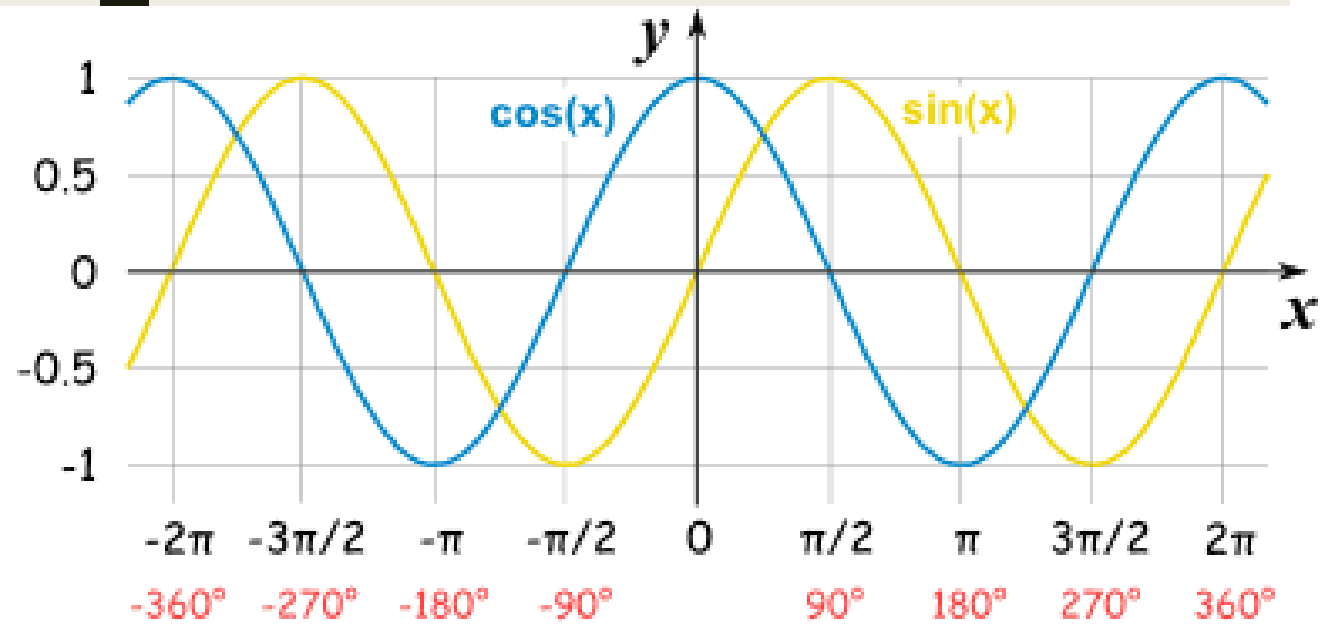
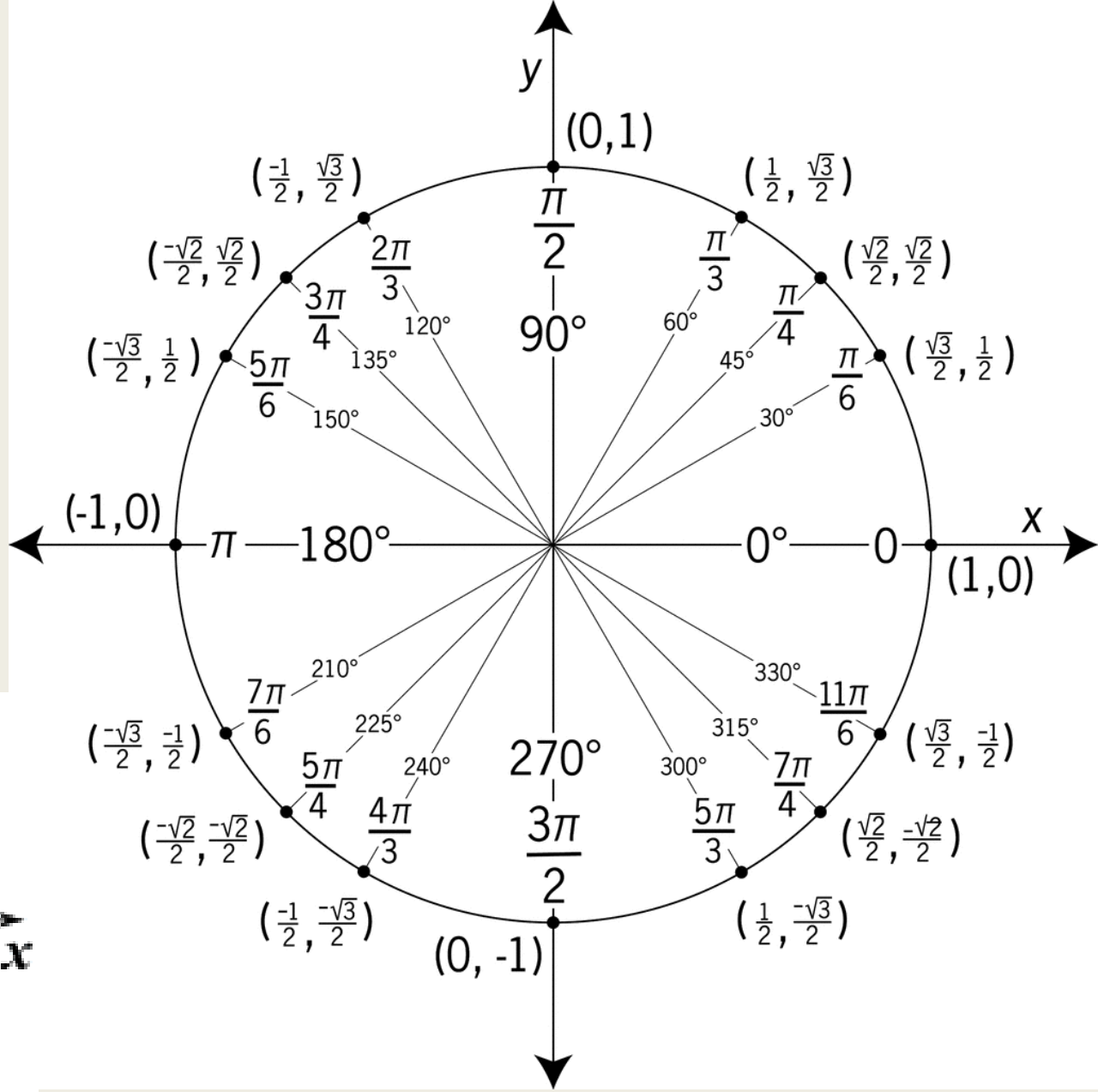
PRE-CALC TRIG

Unit Circle Project (20-25 minutes)

- Turn in on a piece of graph paper (on table by the door if you don't have your own)
- You can graph both sine and cosine on same graph (different colors, or solid and dotted lines) or do each on its own graph… please make sure to label which graph is which as well as the axis.
- You only need to graph one rotation of the unit circle (but if you want to do more than one rotation, or a rotation in both the positive and negative direction that is obviously okay ☺)
- Hold onto the project to use on quiz.
- You will turn them into me next time in case you don't have time to finish today!

Use the Unit Circle to create your own graph of the sine and cosine waves. Justify answers by correctly labeling points and both axis.





Quiz (13 – 20 minutes)

- Complete on a separate sheet of paper
- Work by yourself
- You can use a calculator
- Please turn in (and teacher will place in class specific folder)

Pre-Calc/Trig Quiz 1
Level 2: Evaluate (5 – 7 minutes)

1.) $(-2)^{12}$

2.) $\frac{5-2\cdot 3+3^2}{4}$

3.) $6\sqrt{25} \div (9^2-6)$

4.) How can you identify the x and y intercept of any equation without using a graphing calculator.

Pre-Calc/Trig Quiz 1
Level 3: Answer the following (4 – 6 minutes)

5.) Where do the following two equations intersect and what does it that mean in regards to the given equations (in other words don't define intersection, but describe what an intersection tells us)?

$$y = -x^2 + 2x + 4 \quad and \quad y = 4 - x$$

Pre-Calc/Trig Quiz 1
Level 4 (4 – 7 minutes)

6.) Explain to me how the unit circle creates the sine and cosine graphs. Talk about the importance of π, and the connection to the degrees of a circle. Mention the role the radius of the unit circle plays in the graph of sine and cosine along with the (x, y) coordinates on the exterior of the unit circle in regards to domain and range. Additional thoughts are encouraged.

Today's Notes (12 – 15 minutes)

Objective

- Manipulate functions and discuss their domain and range
- Unit Circle and Graph Understanding Project
- Review main concepts for Test

Functions and Their Graphs

Given:

f(x) = 4x – 12

g(x) = ½ x + 8

Describe the domain and range of f(x) and then g(x).

How is that impacted when we add, subtract, multiply, or divide?

1.) $f(x)+g(x)$ 2.) $g(x) - g(x)$ 3.) $f(x)g(x)$ 4.) $\frac{g(x)}{f(x)}$

Functions and Their Graphs *[Possible Answers]*

Given:

f(x) = 4x – 12

g(x) = ½ x + 8

Describe the domain and range of f(x) and g(x).

Domain: All Real #s Range: All Real #s (no restrictions on inputs or outputs)

How is that impacted when we add, subtract, multiply, or divide?

1.) $f(x)+g(x)$	2.) $g(x) - g(x)$	3.) $f(x)g(x)$	4.) $\frac{g(x)}{f(x)}$
D: All Real #s	D: All Real #s	D: All Real #s	D: All Real #s except 3
R: All Real #s	R: All Real #s	R: All Real #s	R: All Real #s except 0

Discuss in groups of 2 or 3.
What do you notice about the graphs?

Given:

$f(x) = 4x - 12$

$g(x) = \frac{1}{2}x + 8$

Graph the following 4 problems individually. Compare the graphs to the 'answer' for Domain and Range from the previous slide, and justify the why the answers make sense.

1.) $f(x)+g(x)$ 2.) $g(x) - g(x)$ 3.) $f(x)g(x)$ 4.) $\frac{g(x)}{f(x)}$

For Next Time…

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Page 123 #3, 6

ADDITIONALLY:

- Finish Unit Circle Project from today if needed
- Finish Homework from last time (bell work today) if needed
- Finish what you want from initial “review” assignment (optional)