

Get to know your classmates! For each person in your group, including yourself, write (1) their name, (2) where they are from and/or where they went to high school, and (3) an accomplishment that they are proud of or a skill/talent/hobby that they are good at.

Note: You may find the Appendices A, B, & D helpful in completing this worksheet.

1. Given the points $(3, -2)$ and $(1, 4)$

(a). Find the distance between the two points.

(b). Find the slope of the line through the two points.

(c). Write down an equation for the line passing through the two points.

2. Graph the inequality $4x - 2y > 6$.

3. Write down an equation for a circle with radius 3 and centered at (a). the origin (b). the point $(2, -1)$.

4. The curve $y = -x^2 + 4x - 4$ describes a parabola. Without using a calculator,

(a). Which direction does the parabola open?

(b). Where is the vertex?

5. Given the interval in set notation $\{x \mid -4 < x \leq 2\}$

(a). Express it in interval notation

(ie. use parentheses and/or square brackets)

(b). Sketch the interval on a number line.

6. Rewrite the following with fractional exponents: $\frac{-3}{\sqrt{x}}$

7. Rewrite the following expression with positive exponents and simplify: $\frac{2x^{-3}y^2}{xy^{-2}}$

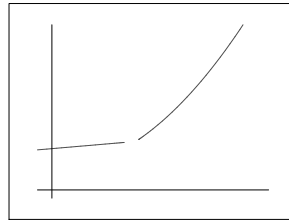
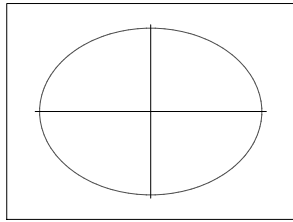
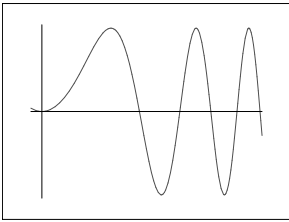
8. Solve the following equations for x :

(a). $x^2 = x$

(b). $2x^2 + 5x - 3 = 0$

9. Explain what a function is.

10. Circle the the following graphs and tables that represent functions? How do you know?



x	y
0	2
1	4
1	6
2	8

x	y
0	2
1	4
2	4
3	8

11. Given $f(x) = 2x^2 + x$, find

(a). $f(-1)$

(b). $f(x + h)$

[Expand your answer.]

12. Find the domain of $g(x) = \frac{\sqrt{x+5}}{x}$.

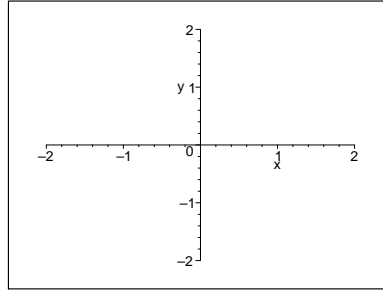
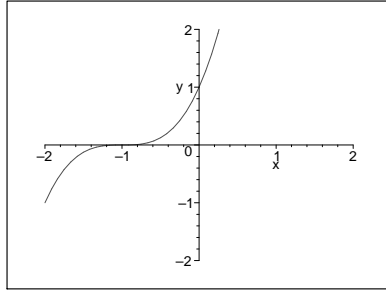
13. Solve the following inequalities:

(a). $x^2 - 2x - 8 > 0$

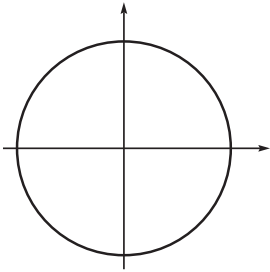
(b). $\frac{1}{x} + x \leq 0$

14. Solve $|x - 6| \leq 4$ and sketch the solution on a number line.

15. Given the graph below of a function $y = f(x)$, sketch the graph of $y = f(x - 1)$ on the same graph. Then sketch $y = -f(x - 1)$ on the empty set of axes provided.



16. Clearly mark and label on the unit circle below, the points associated with the following angles (in radians) $\theta = 0, \pi/6, \pi/4, \pi/3, \pi/2$. Also, label each point with its corresponding x - and y -coordinate [i.e give the coordinate pair (x, y) for each point].



17. Convert

(a). 240° to radians.

(b). $-\frac{7\pi}{4}$ to degrees.

18. Draw the angle $\frac{17\pi}{6}$ in standard position.

19. Sketch the curve $y = 3 \sin x$.

20. Find the **exact** values of the six trigonometric functions for $\frac{2\pi}{3}$. [Do not use a calculator.]

$$\sin \frac{2\pi}{3} =$$

$$\cos \frac{2\pi}{3} =$$

$$\tan \frac{2\pi}{3} =$$

$$\csc \frac{2\pi}{3} =$$

$$\sec \frac{2\pi}{3} =$$

$$\cot \frac{2\pi}{3} =$$

21. Find all solutions in the interval $[0, 2\pi]$ of

(a). $\sin x = 1$

(b). $\sin 3x = 1$

(c). $2 \cos x + 4 \sin x \cos x = 0$

Homework [Due tomorrow, beginning of class]:

- Finish the worksheet to the best of your ability.
- Indicate any of the problems on this worksheet that are unfamiliar to you or you do not feel very comfortable with the concepts. Please add comments about your level of confidence for them.

- Have you taken a precalculus class that covered trigonometry (e.g. angles, radians, trigonometric functions and identities, etc. [see App D])? If not, you should not be in this class – please see the instructor.

- Sign below to indicate that you have read the syllabus and understand the policies for this class.

Signature: _____

Date: _____