Name: Key
Trig – Test 1
9/17/2015

1) Simplify the following expressions and write it with positive exponents:

a) $\frac{7k^3}{14k^6b^2}$ $\frac{1}{2k^3b^2}$

b) $\frac{(x^{-2}y^3)^3}{x^5y^{-4}} = \frac{x^{-6}y^9}{x^5y^{-4}} = \frac{y^{13}}{x^{11}}$

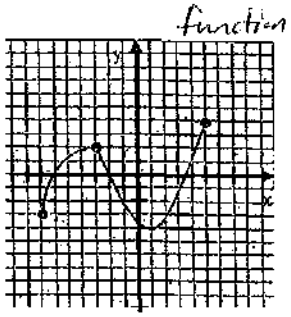
c) $(2x * 3x^3)^2$ $36x^8$

d) $x^4y^2(4x^2y^{-8})$ $\frac{4x^6}{y^6}$

2) State the domain and range of the following relations AND state whether or not it is a function. Use interval or set notation for what is appropriate.

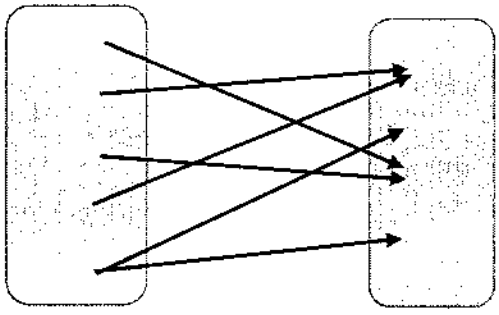
a) $\{(2,-1),(-3,4),(5,4),(2,-2)\}$ not function D: $\{-3, 2, 5\}$ R: $\{-2, -1, 4\}$

b)



function D: $[-7, 5]$ R: $[-4, 4]$

c)



not function D: $\{-2, -1, 0, 1, 3\}$ R: $\{2, 6, 7, 8\}$

d)

X	2	4	-2	-5	10	6
Y	0	1	2	-3	4	-8

function D: $\{-5, -2, 2, 4, 6, 10\}$ R: $\{-8, -3, 0, 1, 2, 4\}$

3) Solve the following inequalities and write your answers in interval notation.

a) $2x + 1 \leq 9$

$x \leq 4$ $\quad 4 \quad (-\infty, -4]$

b) $\frac{x}{3} > 11 \cdot 3$ $\quad x > 33$ $\quad 33$ $\quad (33, \infty)$

c) $4x + 5 \geq 8x - 9$

$14 \geq 4x$

$x \leq 3.5$ $\quad 3.5 \quad (-\infty, 3.5]$

d) $3x + 6 - x < \frac{8}{2} - 3x$

$+3x \quad +3x$

$5x < -2$

$x < -.4$ $\quad -.4 \quad (-\infty, -.4)$

4) Simplify the following radicals

a) $\sqrt[3]{27x^9y^8}$ $\quad 3x^3y^2\sqrt[3]{y^2}$

b) $(ab^3a^6b^7)^{\frac{1}{3}}$ $\quad \sqrt[3]{a^7b^{10}} = a^2b^3\sqrt[3]{ab}$

c) $\sqrt[3]{x^4y^5}$ $\quad xy\sqrt[3]{xy^2}$

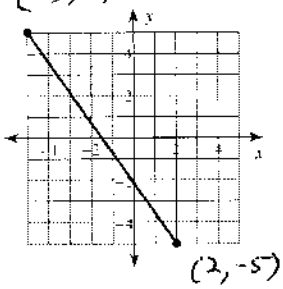
d) $\sqrt[3]{81}$ $\quad 3\sqrt[3]{3}$

$9 \cdot 9$

$3 \cdot 3 \cdot 3 \cdot 3$

5) Find the distance and midpoint of the following segments and endpoints. Write your radicals in simplest form.

a) $(-5, 5)$ $\quad (2, -5)$



$M\left(\frac{-3}{2}, 0\right)$

$d = \sqrt{(2-5)^2 + (-5-5)^2}$

$= \sqrt{149}$ $\quad 7^2 + 10^2$

b) $(2, -3)$ & $(-8, 5)$

$M(-3, 1)$

$d = \sqrt{(-8-2)^2 + (5-3)^2}$

$= \sqrt{100 + 64}$

164

$2 \cdot 82$

$2 \cdot 41$

$2\sqrt{41}$

6) When you have the same base while multiplying, you keep the base and add the exponents.

7) Use completing the square method to put the equation of a circle in standard form.

$$x^2 - 6x + y^2 + 12y - 16 = 3$$

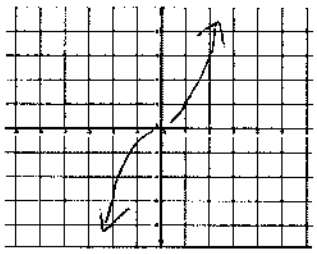
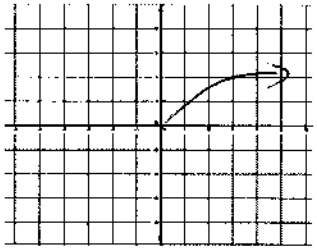
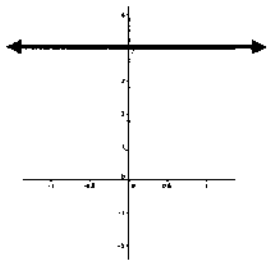
$x^2 - 6x + 9 \quad y^2 + 12y + 36 = 19 + 9 + 36$

$(x-3)^2 + (y+6)^2 = 64$

$C(3, -6), \quad r = 8$

Name: Key 10/18/2017 Trig – Test 2

1) Given the following information, fill in the missing columns.

Function Notation	Name	Graph
$f(x) = x^3$	Cubic	
$f(x) = \sqrt{x}$	Square root	
$f(x) = b$ $= 4$	Constant	

6

2) Find the distance between the following points AND the midpoints. Write your answers in the simplest radical form.

8

a) $(-1,-2)$ & $(5,-7)$ $M(2,-4.5)$

$d = \sqrt{(5-(-1))^2 + (-7-(-2))^2} = \sqrt{61}$ (6^2, 5^2)

b) $(1,4)$ & $(6,-8)$ $M(3.5,-2)$

$d = \sqrt{5^2 + 12^2} = \sqrt{169} = 13$

3) State the domain of the following function rules.

6

a) $f(x) = x^2 - 5$ $(-\infty, \infty)$

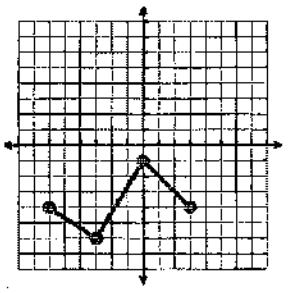
b) $f(x) = \frac{x+5}{\sqrt{2x+10}}$ $2x+10 < 0$, $x < -5$; $(-5, \infty)$

c) $f(x) = \frac{x-2}{2x+28}$ $2x \neq -28$, $x \neq -14$; $(-\infty, -14) \cup (-14, \infty)$

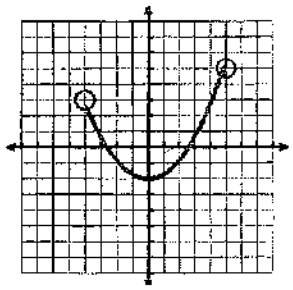
d) $f(x) = \sqrt{32 - 8x}$ $32 - 8x < 0$, $x > 4$; $(-\infty, 4]$

4) Use the following graphs to answer the questions:
a) What are the intervals of increasing and decreasing?
b) What is the domain and range of the functions?
c) What are your x- and y-intercepts?

(12)



a) Increasing: $(-3, 0)$
Decreasing: $(-6, -3) \cup (0, 3)$
b) D: $[-6, 3]$
R: $[-6, -1]$
c) x-inter: none
y-inter: $(0, -1)$



a) increasing: ~~$(-4, 0)$~~ $(0, 5)$
Decreasing: $(-4, 0)$
b) D: $(-4, 5)$
R: $[-2, 5)$
c) x-inter: $(-2.5, 0)$ $(2.5, 0)$
y-inter: $(0, -2)$

5) What is the average rate of change going from $f(1)$ *to* $f(x)$ of the function:

$$f(x) = 4x + 2$$

(3)

$$\frac{4x+2-6}{x-1} = \frac{4x-4}{x-1}$$

$$= \frac{4(x-1)}{(x-1)} = \boxed{4}$$

6) Tell if the following parent functions are even, odd, or neither:

(2)

a) Parabola even
b) $f(x) = |x|$ even.

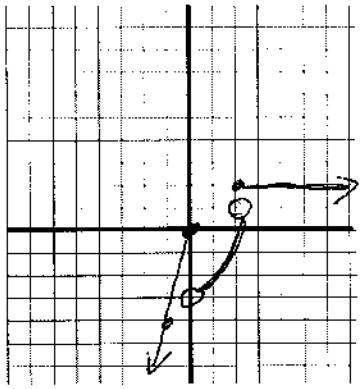
7) Give the following piecewise function. I) Evaluate it for the given values and II) Graph it.

$$f(x) = \begin{cases} 4x, x \le 0 \\ x^2 - 3, 0 < x < 2 \\ 2, x \ge 2 \end{cases}$$

(4)

a) $f(1) = -2$
b) $f(5) = 2$
c) $f(0) = 0$
d) $f(-2) = -8$

e) Graph.



Name: Key 11/17/2017 Trig – Test 3

1) Convert the following angles to degrees. Put your answers in decimal form.

a) $\frac{4\pi}{7} \mid \frac{180}{\pi}$ (102.9°)

b) $\frac{\pi}{4} \mid \frac{180}{\pi} = 45°$

c) $\frac{-\pi}{6} \mid \frac{180}{\pi} = (-30)$

d) $\frac{10}{\pi} \mid \frac{180}{\pi} = 573.2°$

2) Convert the following angles to radians. Leave π in your answer.

a) $80° \mid \frac{\pi}{180} = \frac{4\pi}{9}$

b) $225° \mid \frac{\pi}{180} = \frac{5\pi}{4}$

c) $-360° \mid \frac{\pi}{180} = -2\pi$

d) $-15° \mid \frac{\pi}{180} = \frac{-\pi}{12}$

3) Fill in the following table for the angles given.

$\theta \rightarrow$	a) 45°	b) −120°	c) $-\frac{\pi}{2}$
Quadrant:	I	III	b/w III + IV
$\sin(\theta)$	$+\sqrt{2}/2$	$-\sqrt{3}/2$	-1
$\cos(\theta)$	$+\sqrt{2}/2$	$-1/2$	0
$\tan(\theta)$	$+\sqrt{2}/2$	$+\sqrt{3}$	und

4) Convert the following from decimal form to seconds and minutes.

a) 23.650833
$\times 60$
39.04998
$\times 60$
$23°39'3''$

b) 16.5125
$\times 60$
30.75
$\times 60$
$16°30'45''$

c) 29.605
$\times 60$
36.3
$\times 60$
18
$29°36'18''$

d) 30.004
$\times 60$
.24
$\times 60$
$30°0'14''$

5) Convert the following from seconds and minutes to decimal form.

a) $32°32'32"$ $\frac{32}{60}\ \frac{32}{60}$ $32.5422°$	b) $10°25'50"$ $10.8403°$
c) $197°24'10"$ $197.1735°$	d) $6°12'40"$ $6.67°$

6) A wheel is turning 25 revolutions per minute. If the radius is $1.5ft$, what is the linear speed of the wheel?

$\frac{25\,rev}{min}\left|\frac{2\pi\,rad}{1\,rev}\right. = 50\pi$

$v = w \cdot r$

$= 50\pi \cdot 1.5$

$= 75\pi\,ft/min$

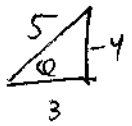
7) A car traveling 60mph has tires that are $2.5ft$ in diameter. How many rotations are the tires making per min? $(5{,}280ft = 1mil)$

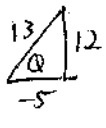
$\frac{60\,mil}{hr}\left|\frac{5280\,ft}{1\,mil}\right|\frac{1\,hr}{60\,min} = \frac{5280\,ft}{min} = w \cdot 2.5$

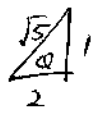
$211.2\,\frac{rad}{min}\left|\frac{1\,rev}{2\pi\,rad}\right. = \boxed{33.6\,\frac{rev}{min}}$

8) Given the following coordinate points, find the sine, cosine, and tangent of the angle made with the positive x-axis and the terminal side of the point.

$(x,y) \rightarrow$	a) $(3,-4)$	b) $(-5,12)$	c) $(2,1)$
Quadrant:	IV	II	I
$\sin(\theta)$	$-4/3$	$+12/13$	$+\sqrt{5}/5$
$\cos(\theta)$	$+3/5$	$-5/13$	$+2\sqrt{5}/5$
$\tan(\theta)$	$-4/3$	$-12/5$	$+1/2$







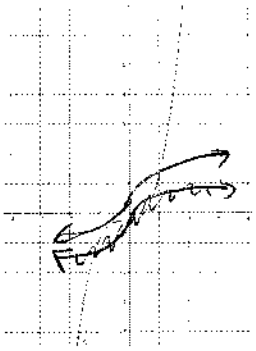
Name:_____
10/27/2017
Trig Quiz

1) Given the following sets of points and graph, 1) Is it a function?, 2) Find the inverse., 3) Is the inverse a function?

a) $\{(-1,2),(2,3),(-1,-9),(0,6)\}$ yes, $\{(2,-1),(3,2),(-9,-1),(6,0)\}$, yes.

b) $\{(m,o),(r,g),(a,n)\}$ yes, $\{(o,m),(g,r),(n,a)\}$, yes.

c) yes, yes



2) Given the following piecewise function, find each value.

$$f(x) = \begin{cases} x^2 + 1 \text{ if } x < 1 \\ 2 + x \text{ if } x = 1 \\ 9 - x \text{ if } x > 1 \end{cases}$$

a) $f(1) = 3$
b) $f(0) = 1$
c) $f(5) = 4$

3) Given the function: $f(x) = 2x - 5$

a) What is the domain and range of the function? D: $(-\infty,\infty)$ R: $(-\infty,\infty)$

b) What is the inverse? $x = 2y - 5$, $+5$ $+5$, $\frac{x+5}{2} = y$

c) What is the domain and range of the inverse? D: $(-\infty,\infty)$ R: $(-\infty,\infty)$

4) Find the domain and range of the inverse if the original function's domain and range are given.

a) D: $(-\infty,\infty)$ R: $(-9,3] \cup (6,10)$ D: $(-9,3] \cup (6,10)$, R: $(-\infty,\infty)$

b) D: $[0,4] \cup (5,10)$; R: $(-5,10] \cup [11,25)$ D: $(-5,10] \cup [11,25)$ R $[0,4] \cup (5,10)$

5) Determine if the following functions are inverses of each other.

$g(x) = \frac{-10+x}{3}$; $f(x) = 3x + 10$

$3\left(\frac{-10+x}{3}\right) + 10$

$-10 + x + 10$

x ✓

Name: Morgan 11/3/2017 Trig – Quiz 9

1) Convert the following angles to degrees. Put your answers in decimal form.

a) $\frac{\pi}{3} \cdot \frac{180}{\pi} = 60°$ | b) $\frac{2\pi}{9} \cdot \frac{180}{\pi} = 40°$ | c) $15 \cdot \frac{180°}{\pi} = 859.4°$

2) Convert the following angles to radians. Leave π in your answer.

a) $160° \cdot \frac{\pi}{180°} = \frac{8\pi}{9}$ | b) $-60° \cdot \frac{\pi}{180} = -\frac{\pi}{3}$ | c) $90° \cdot \frac{\pi}{180} = \frac{\pi}{2}$

3) Convert the following from decimal form to seconds and minutes.

a) 15.2542 $15°15'15''$ $.2542 \times 60 = 15.252$

b) 14.1519 $.252 \times 60$

$14°9'7''$

4) Convert the following from seconds and minutes to decimals.

a) 19°6′18″ 19.105 $\frac{18}{60} = .3$ $\frac{6.3}{60} = .105$

b) 25°1′59″ $+6$ 6.3

25.0331

5) Use the formula $s = r\theta$ to find the missing variable in the following problems.

a) $s = 4ft, r = 2ft$ | b) $s = 6ft, \theta = \frac{\pi}{4}$ | c) $r = 8m, \theta = 60° \cdot \frac{\pi}{180°} = \frac{\pi}{3}$

$4 = 2 \cdot \theta$ $6 = \frac{\pi}{4} \cdot r$ $S = 8 \cdot \frac{\pi}{3}$

$\theta = 2$ $r = 7.639$ $= 8.378$

Name: 11/9/2017 Trig – Quiz 10

1) Convert the following angles to degrees. Put your answers in decimal form.

a) $\frac{7\pi}{6} \left| \frac{180}{\pi} \right. = 210°$

b) $\frac{8\pi}{9} \left| \frac{180}{\pi} \right. = 160°$

2) Convert the following angles to radians. Leave π in your answer.

a) $235° \left| \frac{\pi}{180} \right. = \frac{47\pi}{36}$

b) $-75° \left| \frac{\pi}{180} \right. = \frac{15\pi}{36} = \frac{5\pi}{12}$

3) Fill in the following table for the angles given. (6pts)

$\theta \rightarrow$	a) $-60°$	b) $\frac{3\pi}{4}$	c) $270°$
Quadrant:	IV	II	b/w III & IV
$\sin(\theta)$	$-\sqrt{3}/2$	$+\sqrt{2}/2$	-1
$\cos(\theta)$	$+1/2$	$-\sqrt{2}/2$	0
$\tan(\theta)$	$-\sqrt{3}$	-1	und

4) A wheel is turning 20 revolutions per minute. If the radius is $3ft$, what is the linear speed of the wheel?

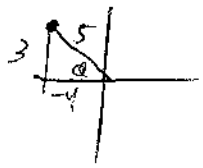
$\frac{20 \text{ rev}}{\text{min}} \left| \frac{2\pi \text{ rad}}{1 \text{ rev}} \right. = 40\pi \frac{\text{rad}}{\text{min}}$

$V = \omega \cdot r$

$V = 40\pi \cdot 3$

$= 120\pi \text{ ft/min}$

5) Use the point $(-4, 3)$ to make the terminal side of an angle. What is the sine, cosine, and tangent of that angle? (Leave your answers in fraction form.)



$\sin(\theta) = \frac{3}{5}$

$\cos(\theta) = \frac{-4}{5}$

$\tan(\theta) = \frac{3}{-4}$

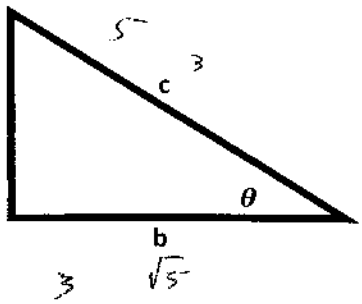
Name: Morgan Key 12/1/2017 Trig – Quiz 11

1) Reduce the first expression to the second in each of the following.

a) $\tan^2 x \cos^2 x$, $\sin^2 x$

b) $(1 + \tan^2 x)\sin^2 x$, $\tan^2 x$

2) Using the triangle on the right and the values given, fill in the following chart.



Trig Function	a) $a = 2, c = 3$	b) $a = 4, b = 3$
$\sin\theta$	$2/3$	$4/5$
$\cos\theta$	$\sqrt{5}/3$	$3/5$
$\tan\theta$	$2\sqrt{5}/5$	$4/3$
$\csc\theta$	$3/2$	$5/4$
$\sec\theta$	$3\sqrt{5}/5$	$5/3$
$\cot\theta$	$\sqrt{5}/2$	$3/4$

3) Fill in the following table for the angles given. (6pts)

$\theta \rightarrow$	a) $-90°$	b) $\frac{7\pi}{6}$ $210°$	c) $0°$
Quadrant:	B/w III & IV	III	B/w I & IV
$\sin(\theta)$	-1	$-1/2$	0
$\cos(\theta)$	0	$-\sqrt{3}/2$	1
$\tan(\theta)$	und	$+\sqrt{3}/3$	0
$\csc(\theta)$	-1	-2	und
$\sec(\theta)$	und	$-2\sqrt{3}/3$	1
$\cot(\theta)$	0	$+\sqrt{3}$	und.

4) If $\sin\theta = 0.3$, then find the following:

a) $\cos(90 - \theta)$

b) $\sin^2\theta$

c) $\cos^2\theta$

d) $\sec^2\theta$

Trig – Semester Review

9/4/2015

1) Simplify the following expression and write it with positive exponents: $\frac{(x^{-2}y^3)^2}{x^3y^{-4}}$ $x^{-4}y^6$ $= \frac{y^{10}}{x^7}$

3)

a) What is the domain and range of the following relation? $\{(2,-1),(-3,4),(5,4),(2,-1)\}$

b) Is it a function? Why or why not? D: $\{-3, 2, 5\}$ R: $\{-1, 4\}$ function → each domain value goes to only one range.

4) Simplify the following radical: $\sqrt[5]{x^8y^{10}}$ $= xy^2\sqrt[5]{x^3}$

5) Fill in the blank:

When you have the same base while multiplying, you keep the base and add the exponents.

When you have the same base while dividing, you keep the base and subtract the exponents.

6) Draw a graph that is not a function. Make it very clear so I do not have to guess. I ALWAYs guess wrong.

9/11/2015

1) Using the following points: $(2,3)$&$(-6,5)$

a) Find the midpoint between them. $M(-2,4)$ $d = \sqrt{(-6-2)^2 + (5-3)^2} = 2\sqrt{17}$ (64, 4)

b) Find the distance between them.

2) Write the following inequality in words and interval notation. (You have to solve it first)

$-2x + 5 \le -7$ -2 times x plus 5 is less than -7.

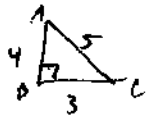
$x \ge 6$ $[6, \infty)$

3) Using the following points: $(1,3), (1,-1), (4,-1)$ (A, B, C)

a) Show that these points form a right triangle

b) What is the area of the triangle? $\frac{1}{2} \cdot 4 \cdot 3 = 6$

c) What is the perimeter of the triangle? 12



$3^2 + 4^2 = 5^2$ ✓

4) Simplify the following radical: $\sqrt[3]{648x^5y^6}$ $2 \cdot 3xy^2\sqrt[3]{3x^2}$

6) Use the completing the square method to solve the following quadratic equation:

$x^2 + 2x - 3 = 0$ $(x^2+2x+\underline{1}) = 3 + \underline{1}$

$(x+1)^2 = 4$

$x+1 = \pm 2$ $x = -3, 1$

9/25/2015

1) Solve the following inequalities, graph the solutions, and write your answer in interval notation. $x \le 4$ and $x > -2$ $(-2, 4]$

a) $4x - 5 \le 11$ *AND* $3x + 5 > -1$

b) $4 \le -3x - 2 < 10$ $6 \le -3x < 12$ $-2 \ge x > 4$

c) $-4k < -16$ *OR* $-2k > -8$ $k > 4$ OR $k < 4$ (no soln) $(-4, -2)$

2) Test the following for symmetry about the x-axis, y-axis, and the origin.

$x^2 = y$ $(-x)^2 = y$

$x^2 = y$ ✓ about x-axis.

$(-x)^2 = -y$

$x^2 = -y$ not about origin.

not about y-axis.

3) Write the equation of the circle in standard for the following:

$r = 2, (h,k) = (2,-1)$

$(x-2)^2 + (y+1)^2 = 4$

5) Given the point: $(1,-3)$, state the points that are symmetry to it about the:

a) x-axis $(1, 3)$

b) y-axis $(-1, -3)$

c) the origin $(-1, 3)$

6) Find the center (h,k) and radius r of the following circle: $x^2 + y^2 - 4x + 6y = 23$

$C(2,-3)$ $r=6$ $x^2-4x+4+y^2+6y+9 = 23+4+9$ $(x-2)^2+(y+3)^2=36$

10/2/2015

2) Given: $f(x) = \frac{x}{2x-5}$.

a) Is the point $(0, 2)$ on the graph of f? no $2 = \frac{0}{2(0)-5}$ $2 \neq 0$

b) If $x = -1$, what is $f(x)$? $f(-1) = \frac{-1}{2(-1)-5} = \frac{-1}{-7} = \frac{1}{7}$

c) If $f(x) = 1$, what is x? $x = 5$ $1 = \frac{x}{2x-5}$ $2x-5 = x$

3) Write the equation of the circle in standard for the following:

Endpoints of a diameter are: $(2,3)$ & $(-1,-3)$ $d = \sqrt{3^2+6^2} = \sqrt{45} = 3\sqrt{5}$ $M(\frac{1}{2}, 0)$ $r = \frac{3}{2}\sqrt{5}$ $(x-\frac{1}{2})^2+(y)^2 = \frac{45}{4}$

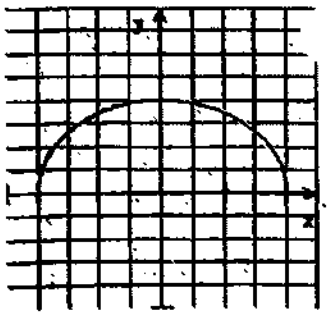
**Bonus: Solve the following system of linear equations (Hint: Cramer's rule would be very useful):

$$\begin{cases} 2x + y = 3 \\ 5x + 6y = 4 \end{cases}$$

$D = 7$ $D_x = 14$ $D_y = -7$ $x = 2$ $y = -1$

10/9/2015

1) Use the graph on the right to answer the following question.



a) What is the domain and range of the graph? Is it a function? $[-4,4]$

b) What are the intervals of increasing and decreasing of the function? I: $(-4,0)$ D: $(0,4)$ R: $[0,4]$

c) Is the function even, odd, or neither?

2) Given: $f(x) = \frac{x}{2x-5}$.

a) Is the point $(0, 2)$ on the graph of f? no

b) If $x = -1$, what is $f(x)$? $\frac{1}{7}$

c) If $f(x) = 1$, what is x? 5

3) Given the following piecewise function, find each value.

$$f(x) = \begin{cases} x^2 + 1 \text{ if } x < 1 \\ 2 + x \text{ if } x = 1 \\ 9 - x \text{ if } x > 1 \end{cases}$$

a) $f(1) = 3$ b) $f(0) = 1$ c) $f(5) = 4$

4) Find the average rate of change of f between 2 and x. $\frac{f(x)-f(2)}{x-2}$ $\frac{2x-4}{x-2} = \frac{2(x-2)}{x-2}$

$f(x) = 2x$

2

10/30/2015

1) Given the following sets of points and graph, 1) Is it a function?, 2) Find the inverse., 3) Is the inverse a function?

a) $\{(-1,2),(2,3),(-1,-9),(0,6)\}$ not a function. inverse: $\{(2,-1),(3,2),(-9,-1),(6,0)\}$ function.

b) $\{(s,e),(t,h),(o,c),(y,d)\}$ yes

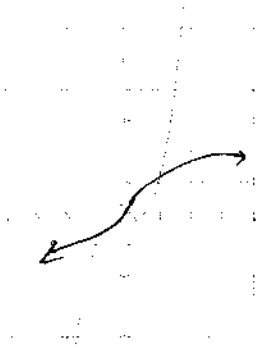
c)

yes

yes

$I: \{(e,s),(h,t),(c,o),(d,y)\}$

yes.



4) Given the function: $f(x) = 2x - 5$

a) What is the domain and range of the function? D: $(-\infty,\infty)$

b) What is the inverse? $\frac{x+5}{2} = y$ R: $(-\infty,\infty)$

c) What is the domain and range of the inverse? same.

5) What is the domain of the following function?

a) $f(x) = \frac{4}{3x-12} - \sqrt{2x+8}$ $x \neq 4$ $x \geq -4$ $[-4,4)\cup(4,\infty)$ b) $f(x) = \frac{2x}{x-8}$ $x \neq 8$ $(-\infty,8)\cup(8,\infty)$ c) $f(x) = \frac{4}{\sqrt{2x+10}}$ $x > -5$ $(-5,\infty)$

11/6/2015

Trig Quiz

1) Convert the following angles to degrees. Put your answers in decimal form.

a) $\frac{\pi}{3} \mid \frac{180}{\pi} = 60°$ b) $\frac{2\pi}{9} \mid \frac{180}{\pi} = 40$ c) $15 \mid \frac{180}{\pi} = 859.9°$

2) Convert the following angles to radians. Leave π in your answer.

a) $160° \mid \frac{\pi}{180} = \frac{8\pi}{9}$ b) $-60° \mid \frac{\pi}{180}$ $\frac{-\pi}{3}$ c) $90° \mid \frac{\pi}{180}$ $\frac{\pi}{2}$

3) Convert the following from decimal form to seconds and minutes.

a) 15.2542 $\times 60$ $15°15'15''$ b) 14.1519 $14°9'7''$

5) A wheel is turning 30 revolutions per minute. If the radius is $4in$, what is the linear speed of the wheel?

$\frac{30\ rev}{min} \mid \frac{2\pi\ rad}{1\ rev} = 60\pi\ \frac{rad}{min}$ $v = \omega \cdot r$ $= 60\pi \cdot 4 = 240\pi\ \frac{in}{min}$

6) Convert the following from seconds and minutes to decimals.

a) $19°6'18'' \div 60 \rightarrow 19.105°$

b) $25°1'59'' \div 60 \rightarrow 25.0331$

11/13/2015

1) Convert the following angles to degrees. Put your answers in decimal form.

a) $\frac{7\pi}{6} \mid \frac{180}{\pi} = 210°$ b) $\frac{8\pi}{9} \mid \frac{180}{\pi} = 160°$

2) Convert the following angles to radians. Leave π in your answer.

a) $235° \mid \frac{\pi}{180}$ $\frac{47\pi}{36}$ b) $-75° \mid \frac{\pi}{180} = \frac{-5\pi}{12}$

3) Fill in the following table for the angles given. (6pts)

$\theta \rightarrow$	a) $-60°$	b) $\frac{3\pi}{4}$	c) $270°$	d) $\frac{7\pi}{6}$ $30°$	e) $0°$
Quadrant:	IV	II	B/w III & IV	III	B/w I & IV
$\sin(\theta)$	$-\sqrt{3}/2$	$+\sqrt{2}/2$	-1	$-1/2$	0
$\cos(\theta)$	$+1/2$	$-\sqrt{2}/2$	0	$-\sqrt{3}/2$	1
$\tan(\theta)$	$-\sqrt{3}$	-1	und	$+\sqrt{3}/3$	0
$\csc(\theta)$	$-2\sqrt{3}/3$	$+\sqrt{2}$	-1	-2	und
$\sec(\theta)$	$+2$	$-\sqrt{2}$	und	$-2\sqrt{3}/3$	1
$\cot(\theta)$	$-\sqrt{3}/3$	-1	0	$+\sqrt{3}$	und

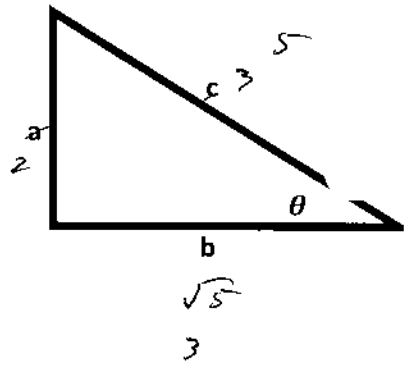
5) Use the point $(-4, 3)$ to make the terminal side of an angle. What is the sine, cosine, and tangent of that angle? (Leave your answers in fraction form.)

12/4/2015

~~1) Reduce the first expression to the second in each of the following.~~

~~a) $\tan^2 x \cos^2 x$, $\sin^2 x$ b) $(1 + \tan^2 x)\sin^2 x$, $\tan^2 x$~~

2) Using the triangle on the right and the values given, fill in the following chart.



Trig Function	a) $a = 2, c = 3$	b) $a = 4, b = 3$
$\sin\theta$	$2/3$	$4/5$
$\cos\theta$	$\sqrt{5}/3$	$3/5$
$\tan\theta$	$2\sqrt{5}/5$	$4/3$
$\csc\theta$	$3/2$	$5/4$
$\sec\theta$	$3\sqrt{5}/5$	$5/3$
$\cot\theta$	$2\sqrt{5}$	$3/4$

~~4) If $\sin\theta = 0.3$, then find the following:~~

~~a) $\cos(90 - \theta)$ b) $\sin^2\theta$ c) $\cos^2\theta$ d) $\sec^2\theta$~~

~~12/11/2015~~

~~1) Graph each of the following functions.~~

~~a) $3\sin(x)$ b) $\cos(2x)$ c) $\tan\left(x - \frac{\pi}{2}\right)$ d) $\sec(x)$~~

Tests 1, 2, 3, Midterm

1) Simplify the following expressions and write it with positive exponents:

a) $\frac{7k^3}{14k^6b^2}$ $\frac{1}{2k^3b^2}$

b) $\frac{(x^{-2}y^3)^3}{x^5y^{-4}}$ $\frac{y^{13}}{x^{11}}$

c) $(2x * 3x^3)^2$ $36x^8$

d) $x^4y^2(4x^2y^{-8})$ $4x^6/y^6$