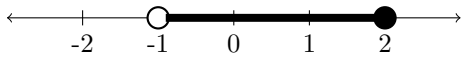
Your Name: September 30th 2025

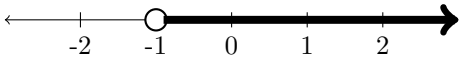
Math 115E Class

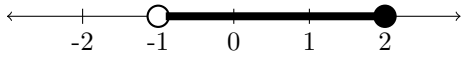
Midterm Class Review

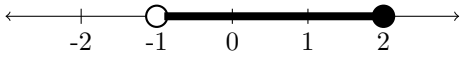
Activity 1

State the interval notation in both forms





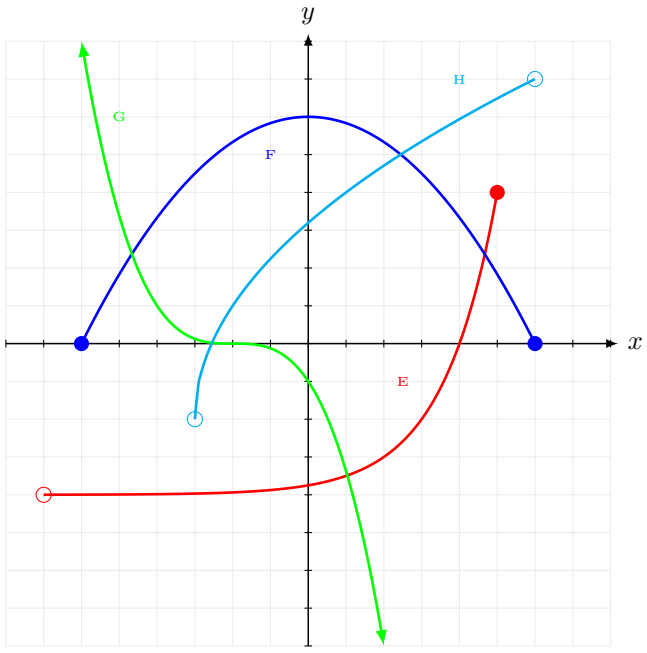




Activity 2/3

What is the domain and range for plots:

1. Graph (E)



2. Graph (F)

3. Graph (G)

4. Graph (H)

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Activity 4

Simplify or expand the Following:

1. $(a+b)^2$
2. $(-2)^2 + (-3)$
3. $x^2 \cdot x^3 \cdot x$
5. $2(-3)(-1)(-x)$
6. $10x + 50x - 70x$
7. $(x-2)(3x+1)$

Activity 5

Simplify or expand the Following:

1. $f(x) = 2x - 10, f(6) =?$
2. $f(x) = 10 - 5x, f(-1) =?$
3. $f(x) = -x^2 + 4, f(4) =?$
5. $f(x) = 2 - x, f(x+3) =?$
6. $f(x) = x^2 + x + 1, f(3x) =?$
7. $f(x) = x^2 - 1, f(x+3) =?$

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Activity 6

Given two functions: $f(x) = 2x + 1$ and $g(x) = x^2 - 1$

1. Find $(f \circ g)(x)$

2. Find $(g \circ f)(x)$

3. Find $(f + g)(x)$

5. Find $(f - g)(4)$

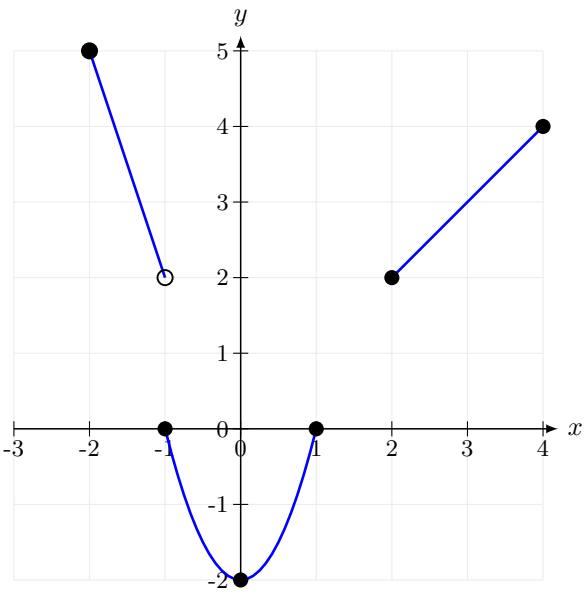
6. Find $(f \cdot g)(x)$

7. Find $(f \circ f)(6)$

Activity 7

1. Let $f(x)$ be the function given by the graph
   Let $g(x)$ be given as $g(x) = 1 - x - x^2$
   Let $h(x)$ be the function given by the table

x	-5	-3	-1	0	2	4	5	6
$h(x)$	-2	-0.5	0.5	2	3	9	0	15



   Find the following

   (a) Find $g(f(3))$

   (b) Find $(f \cdot g)(2)$

   (c) Find $h(g(2))$

   (d) Find $h(f(-1))$