

Today's Plan:

Learning Target (standard): I will prepare for the final exam.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and complete practice problems over past concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of past concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in practice/review problems.

Evaluate each function.

23) $g(a) = -a^2 - 1$; Find $g(-4)$

$$g(-4) = -(-4)^2 - 1$$

$$= -16 - 1$$

$$g(-4) = -17$$

25) $w(x) = -3x^2 + x$; Find $w(x-1)$

$$w(x-1) = -3(x-1)^2 + (x-1)$$

$$= -3(x-1)(x-1) + (x-1)$$

$$= -3(x^2 - x - x + 1) + x - 1$$

Perform the indicated operation.

27) $f(x) = -2x + 2$

$g(x) = x^2 + 4$

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

$$(f \circ g)(x) = f(g(x)) = f(x^2 + 4)$$

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

$$= -2x^2 - 8 + 2$$

$$(f \circ g)(x) = -2x^2 - 6$$

$$= -3x^2 + 3x + 3x - 3 + x - 1$$

$$w(x-1) = -3x^2 + 7x - 4$$

24) $g(x) = 3x$; Find $g(-8)$

$$g(-8) = 3(-8)$$

$$g(-8) = -24$$

26) $h(x) = 2x + 1$; Find $h(-4x)$

$$h(-4x) = 2(-4x) + 1$$

$$h(-4x) = -8x + 1$$

28) $h(t) = t^2 - 3t$ Find $(h \circ g)(t) = h(g(t))$

$g(t) = -2t + 1$

Find $(h \circ g)(t)$

$$(h \circ g)(t) = (-2t + 1)^2 - 3(-2t + 1)$$

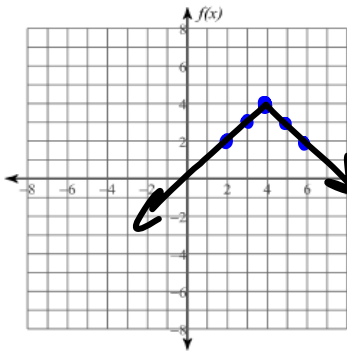
$$= (-2t + 1)(-2t + 1) + 6t - 3$$

$$= 4t^2 - 2t - 2t + 1 + 6t - 3$$

$$(h \circ g)(t) = 4t^2 + 2t - 2$$

Graph each function by using a t-chart and any "important" information. Determine the domain and range.

29) $f(x) = -|x - 4| + 4$

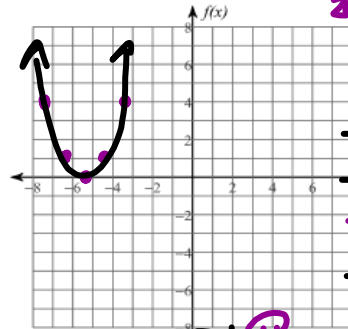


vertex: (4, 4)
 $x - 4 = 0$
 $x = 4$

x	y
2	2
3	3
4	4
5	3
6	2

D: \mathbb{R}
 R: $\{y \mid y \leq 4\}$

30) $f(x) = x^2 + 10x + 25$



vertex: (-5, 0)
 $x = -\frac{b}{2a} = -\frac{10}{2(1)} = -\frac{10}{2}$

x	y
-7	4
-6	1
-5	0
-4	1
-3	4

D: \mathbb{R}
 R: $\{y \mid y \geq 0\}$

Find the inverse of each function.

31) $g(x) = -\frac{5}{2}x + \frac{5}{2}$

$$y = -\frac{5}{2}x + \frac{5}{2}$$

$$2 \left[x = -\frac{5}{2}y + \frac{5}{2} \right]$$

$$2x = -5y + 5$$

$$\frac{2x - 5}{-5} = \frac{-5y}{-5}$$

$$y = -\frac{2}{5}x + 1$$

$$g^{-1}(x) = -\frac{2}{5}x + 1$$

32) $f(x) = \frac{12 + x}{4}$

$$y = \frac{12 + x}{4}$$

$$4 \left[x = \frac{12 + y}{4} \right]$$

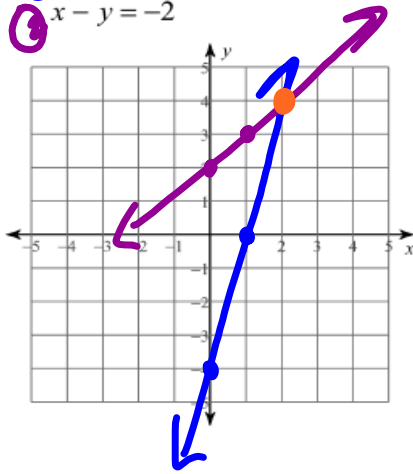
$$4x = 12 + y$$

$$4x - 12 = y$$

$$f^{-1}(x) = 4x - 12$$

Solve the system using the graphing method. Be sure to include the slope and y-intercept.

33) $4x - y = 4$
 $x - y = -2$



$-y = -4x + 4$
 $y = 4x - 4$
 $m = 4$
 $Iy: (0, -4)$

$x - y = -2$
 $-y = -x - 2$
 $y = x + 2$
 $m = 1$
 $Iy: (0, 2)$

independent
 $(2, 4)$

Solve each system by substitution.

34) $-14x + 2y = 44$
 ~~$-7x - y = 22$~~

$y = 7x + 22$

$-14x + 2(7x + 22) = 44$
 $-14x + 14x + 44 = 44$
 $44 = 44 \checkmark$

dependent
 infinite
 solutions

Solve each system by elimination.

35) $\begin{cases} 5x + 4y = -1 \\ 3x + 5y = 2 \end{cases}$

$15x + 12y = -3$
 $-15x - 25y = -10$

 $-13y = -13$
 $y = 1$

independent
 $(-1, 1)$
 $5x + 4z = -1$
 $5x = -5$
 $x = -1$

36) $-4x + 3y + z = 26$
 $4x + 6y + 4z = 20$
 $-4x + 2y + 5z = 30$