

$$22. \begin{cases} x^3 + y^3 = 0 \\ 11x^2 - y = 0 \end{cases}$$

$$\begin{array}{r} +y \\ +y \end{array}$$

$$y = 11x^2$$

$$x^3 + 11x^2 = 0$$

$$x^2(x + 11) = 0$$

$$x^2 = 0 \quad x + 11 = 0$$

$$x = 0 \quad x = -11$$

$$(-11)^3 + y = 0$$

$$-1331 + y = 0$$

$$y = 1331$$

(0, 0)

(-11, 1331)

B

$$23. \begin{cases} 2x + 2y = 6 \\ -2x \quad -2x \end{cases}$$

$$-2x \quad -2x$$

$$\frac{2y}{2} = \frac{-2x + 6}{2} \quad y = -x + 3$$

$$y = -x + 3$$

A

Y is a function of X since there is only one value

$$24. f(x) = 4x^2 + 2x + 6 \quad f(x-1)$$

$$f(x-1) = 4(x-1)^2 + 2(x-1) + 6$$

$$= 4(x^2 - 2x + 1) + 2x - 2 + 6$$

$$= 4x^2 - 8x + 4 + 2x - 2 + 6$$

$$= 4x^2 - 6x + 8 \quad D$$

$$25. \begin{cases} x^2 + y^2 = 49 \\ y - x^2 > 0 \end{cases}$$

$$y - x^2 > 0$$

So

B

circle radius 7 shaded inside parabola facing up shaded inside

26. Passes the vertical line test it is a function.

A

27. Go to -5 on the x-axis the y-coordinate is then +5 so B

$$28. f(x) = x^3 + x^2 - 4$$

$$f(-x) = (-x)^3 + (-x)^2 - 4$$

$$= -x^3 + x^2 - 4$$

$f(-x) \neq -f(x)$  so it is not odd  
 $f(-x) \neq f(x)$  so it is not even  
Neither A

$$29. f(x) = \begin{cases} x+3 & \text{if } x > -2 \\ -(x+3) & \text{if } x \leq -2 \end{cases} \quad f(-6)$$

$$-(-6+3)$$

$$-(-3) = 3$$

B

$$30. f(x) = 6x + 7 \quad f(x+h) = 6(x+h) + 7$$
$$= 6x + 6h + 7$$

$$\frac{6x + 6h + 7 - (6x + 7)}{h} = \frac{6x + 6h + 7 - 6x - 7}{h} = 6 \quad D$$

31. Look @ the x-values to determine your intervals.

$(-2, -1)$  or  $(3, \infty)$  A

32. Same as 31.  $(-\infty, 3)$  D

$$33. (4,2)(3,7) \quad m = \frac{7-2}{3-4} = \frac{5}{-1} = -5$$

$$\begin{cases} y-2 = -5(x-4) \text{ or} \\ y-7 = -5(x-3) \end{cases} \quad \text{A}$$

$$34. f(x) = 7x - 9 \quad g(x) = 2x - 4$$

$$\begin{aligned} (f-g)(x) &= (7x-9) - (2x-4) \\ &= 7x-9-2x+4 \\ &= 5x-5 \end{aligned} \quad \text{A}$$

$$35. \{ \max(-2, 18), \min(2, -14) \} \quad \text{D}$$

$$36. g(x) = \frac{3x}{x^2-81} \quad x^2-81 \neq 0$$

$$x \neq \pm 9 \quad \text{everything except } \pm 9$$

$$(-\infty, -9) \cup (-9, 9) \cup (9, \infty) \quad \text{C}$$

$$37. f(x) = \sqrt{6-x}$$

$$6-x \geq 0$$

$$(-\infty, 6]$$

$$x \leq 6 \quad \text{everything less than 6.} \quad \text{D}$$

38.

$$\frac{4}{\left(\frac{7}{8x}\right)+6} = \frac{4}{\frac{7}{8x} + \frac{6(8x)}{8x}} = \frac{4}{\frac{7+48x}{8x}}$$

$$\frac{32x}{7+48x} \quad \text{D}$$

39.  $f(x) = \frac{x-6}{4}$        $g(x) = 4x-6$        $h(x) = \frac{x+6}{4}$

$y = \frac{x-6}{4}$

$x = \frac{y-6}{4}$

$4x+6 = y$

$y = 4x-6$

$x = \frac{y-6}{4}$

$\frac{x+6}{4} = \frac{4y}{4}$

$\frac{x+6}{4} = y$

$y = \frac{x+6}{4}$

$x = \frac{y+6}{4}$

$4x = y+6$   
 $-6 \quad -6$

$4x-6 = y$

So  $g(x)$  and  $h(x)$  are inverses C

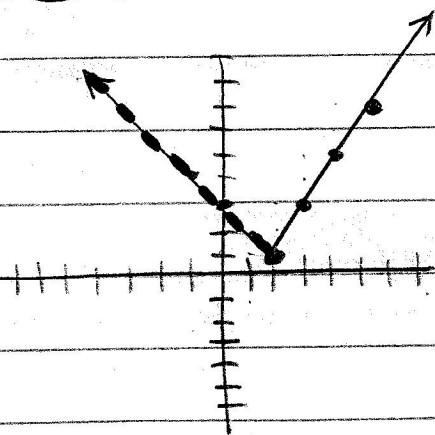
40.  $f(x) = \sqrt[3]{x-6}$

$(x)^3 = (\sqrt[3]{y-6})^3$

$x^3 = y-6$   
 $+6 \quad +6$

$y = x^3 + 6$  A

41.



$y = \begin{cases} -x+3 & \text{if } x < 2 \\ 2x-3 & \text{if } x \geq 2 \end{cases}$

B

42.  $f(x) = 5x^2 - 10x$  minimum value find on calculator

Graph Shift F5, F3

{ minimum (1, -5) } C