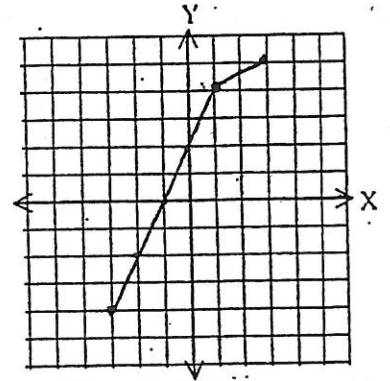
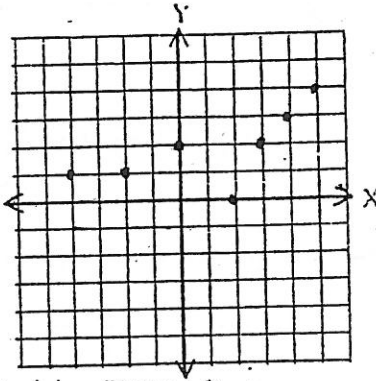
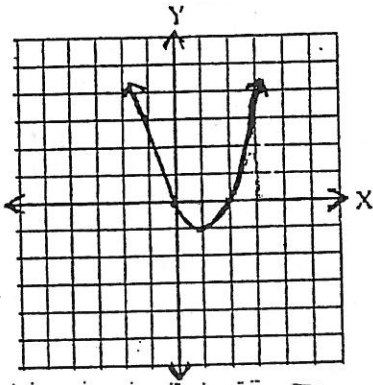


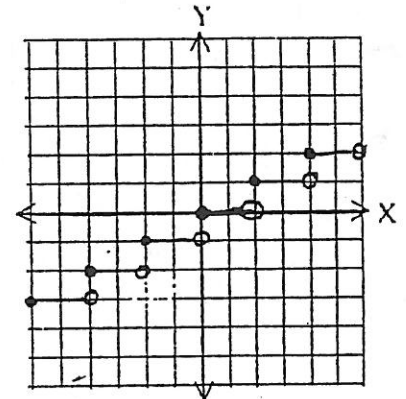
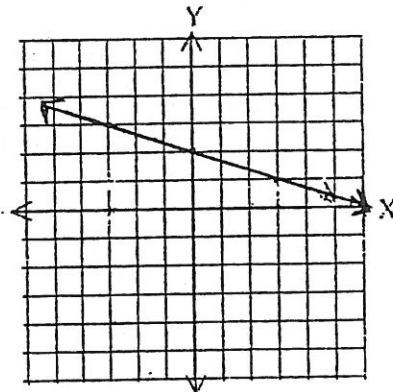
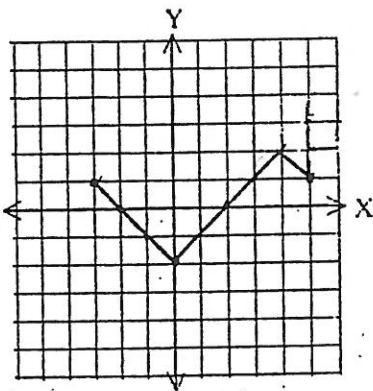
Algebra 2 H Functions Worksheet

Identify: D (domain), R (range), $f(3)$, Z (any zeros) and tell whether it is a 1-1 function. (Yes/No)

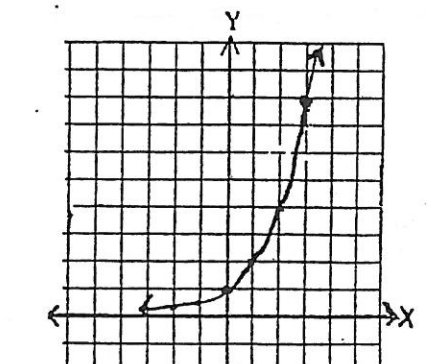
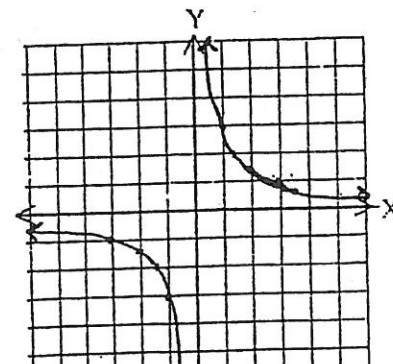
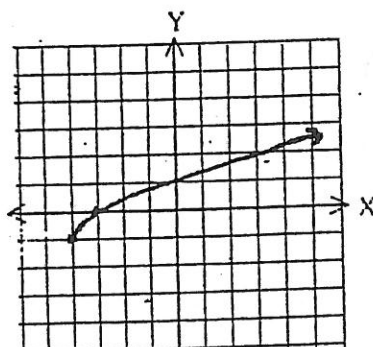
1. D: $X \in \mathbb{R}$ 2. D: $X \in \{-4, -2, 0, 2, 3, 4, 5\}$ 3. D: $X \in [-3, 3]$
 R: $Y \in [-1, \infty)$ R: $Y \in \{0, 1, 2, 3, 4\}$ R: $Y \in [-4, 5]$
 $f(3) = 3$ Z: $0, 2$ 1-1 No $f(3) = 2$ Z: 2 1-1 No $f(3) = 5$ Z: -1 1-1 Y



4. D: $X \in [-3, 5]$ 5. D: $X \in \mathbb{R}$ 6. D: $X \in [-6, 6]$
 R: $Y \in [-2, 2]$ R: $Y \in \mathbb{R}$ R: $Y \in \{-3, -2, -1, 0, 1, 2\}$
 $f(3) = 1$ Z: $-2, 2$ 1-1 N $f(3) = 1$ Z: 6 1-1 Y $f(3) = 1$ Z: $[0, 1)$ 1-1 N



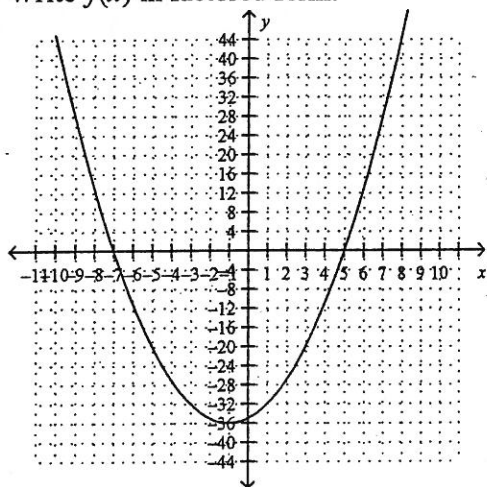
7. D: $X \in [-4, \infty)$ 8. D: $X \neq 0$ 9. D: $X \in \mathbb{R}$
 R: $Y \in [-1, \infty)$ R: $Y \neq 0$ R: $Y \in (0, \infty)$
 $f(3) = 2$ Z: -3 1-1 Y $f(3) = 1$ Z: None 1-1 Y $f(3) = 8$ Z: None 1-1 Y



Multiple Representations

Short Answer

1. Write $f(x)$ in factored form:



$$F(x) = (x+7)(x-5)$$

2. Given two functions: $f(x) = -x^2 + 3x$
 $g(x) = -4x + 3$

Answer the following:

1. Find $f(-1)$. -4
 2. Which is greater $f(2)$ or $g(0.5)$? $F(2) = 2$ $g(0.5) = 1$ $F(2) > g(0.5)$
 3. When is $f(x) = 0$? $-x^2 + 3x = 0 \rightarrow -x(x-3) = 0 \rightarrow x = 0, 3$
 4. Calculate the product of $f(2)$ and $g(-3)$. $g(-3) = 15 \rightarrow 2 \cdot 15 = 30$
 5. List the value of $g(f(2))$. $g(2) = -5$
3. Write the equation of the line perpendicular to the line determined by the points in the given table and passing through $(-2, 1)$. Use point-slope form.

x	y
-8	15
-4	9
-2	6
-1	4.5
0	3
1	1.5
2	0
4	-3
8	-9

$$\rightarrow m = \frac{-6}{4} = -\frac{3}{2} \xrightarrow{\text{Perp}} m = \frac{2}{3}$$

$$y - 1 = \frac{2}{3}(x + 2)$$