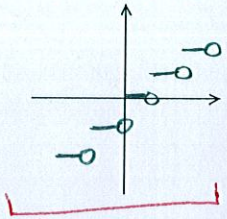
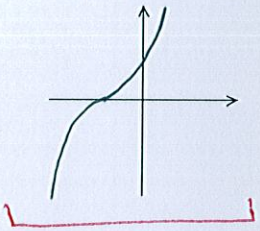
[] Sketch the following graphs.

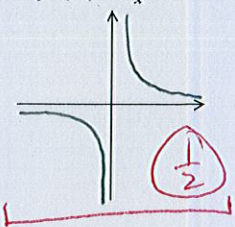
$f(x) = [[x]]$



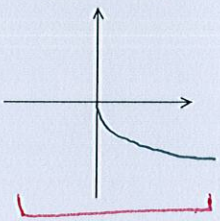
$f(x) = (x+2)^3$



$f(x) = \frac{1}{x}$



$f(x) = -\sqrt{x}$



[] Fill in the blanks.

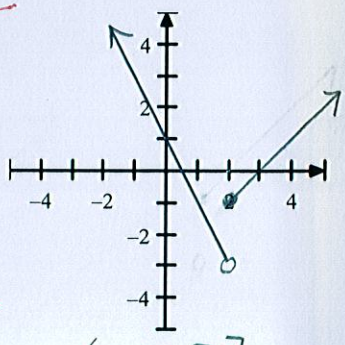
[a] An even function is symmetric over THE y-AXIS.

[b] If the point $(-2, 3)$ is on the graph of an odd function, then the point (2, -3) must also be on the graph.

[c] The point $(2,$ -5 $)$ is on the graph of $n(x) = 3 - x^3$.

[] Sketch the graph of $g(x) = \begin{cases} 1-2x, & x < 2 \\ x-3, & x \geq 2 \end{cases}$.

ANSWER: **DRAWN BELOW**



[] Find the domain of $h(x) = \sqrt{6-3x}$ algebraically.
Write your answer in interval notation.

$6 - 3x \geq 0$

$-3x \geq -6$

$x \leq 2$

ANSWER: $(-\infty, 2]$

ADDITIONAL QUESTIONS ON THE OTHER SIDE ➡

[] If $k(x) = [[2x+3]]$, find $k(-3.1)$. **ANSWER:** -4

$[2(-3.1)+3]$
$= [-6.2+3]$
$= [-3.2]$
$= -4$

[] Find the average rate of change of $p(x) = \frac{24}{x}$ from $x_1 = -2$ to $x_2 = 8$. **ANSWER:** $\frac{3}{2}$

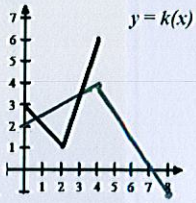
$\frac{p(8)-p(-2)}{8-(-2)}$
$= \frac{3-(-12)}{8-(-2)}$
$= \frac{15}{10} = \frac{3}{2}$

[] Is $m(x) = -x^5 + 7x^3 - 3$ an odd function ? Justify your answer algebraically. **ANSWER:** NO (YES OR NO) $\frac{1}{2}$

$m(-x) = -(-x)^5 + 7(-x)^3 - 3$
$= x^5 - 7x^3 - 3$
$-m(x) = -(-x^5 + 7x^3 - 3)$
$= x^5 - 7x^3 + 3$

$m(-x) \neq -m(x)$

The following questions all refer to the graph of $k(x)$ on the right.



(2)

[] Find all intervals over which k is decreasing. Write your answer in interval notation. **ANSWER:** $[0,2]$ (1)

[] Find the range of k. Write your answer in interval notation. **ANSWER:** $[1,6]$

[] Sketch the graph of $y = -k(\frac{1}{2}x) + 5$ on the axes above. **ANSWER:** **DRAWN ABOVE**

$(0,3) \xrightarrow{\text{REFLECT OVER x-AXIS}} (0,-3) \xrightarrow{\text{SHIFT UP 5}} (0,2) \xrightarrow{\text{STRETCH AWAY FROM y-AXIS FACTOR 2}} (0,2)$

$(2,1) \longrightarrow (2,-1) \longrightarrow (2,4) \longrightarrow (4,4)$

$(4,6) \longrightarrow (4,-6) \longrightarrow (4,-1) \longrightarrow (8,-1)$