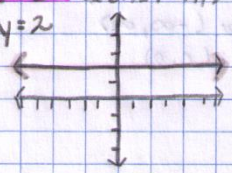
9/8/15

8 Basic Function Graphs

1. $f(x) = b$ (constant)

ex: $y = 2$

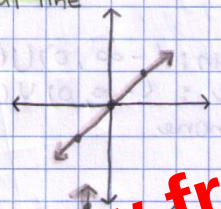


Domain: $(-\infty, \infty)$
Range: $\{2\}$
no x-int, y-int = $(0, 2)$

horizontal line

2. $f(x) = x$

ex: $y = 1x$



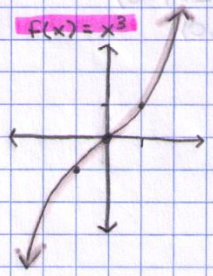
Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$
intercept = $(0, 0)$

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

(even ...)

Domain: $(-\infty, \infty)$
Range: $[0, \infty)$
int: $(0, 0)$

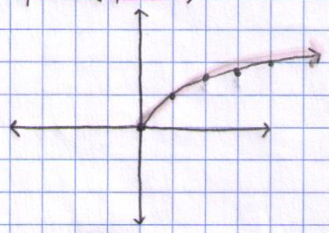
4. $f(x) = x^3$



Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$
int: $(0, 0)$

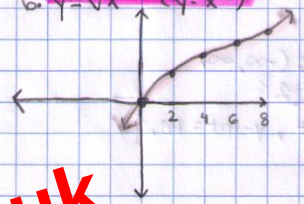
(odd powers)

5. $y = \sqrt{x}$ $(y = x^{1/2})$



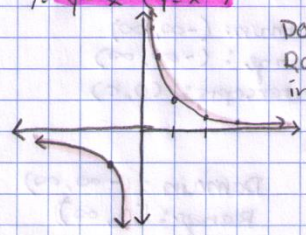
Domain: $[0, \infty)$
Range: $[0, \infty)$
int: $(0, 0)$

6. $y = \sqrt[3]{x}$ $(y = x^{1/3})$



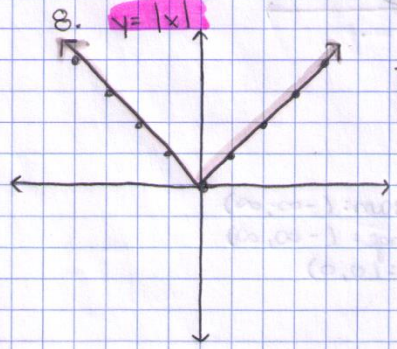
Domain $(-\infty, \infty)$
Range $(-\infty, \infty)$
int: $(0, 0)$

7. $y = \frac{1}{x}$ $(y = x^{-1})$



Domain: $(-\infty, 0) \cup (0, \infty)$
Range: $(-\infty, 0) \cup (0, \infty)$
int: none

8. $y = |x|$



Domain: $(-\infty, \infty)$
Range: $[0, \infty)$
int: $(0, 0)$

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