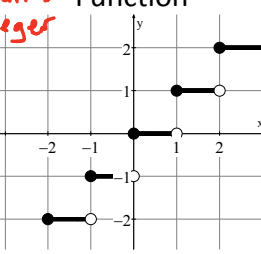
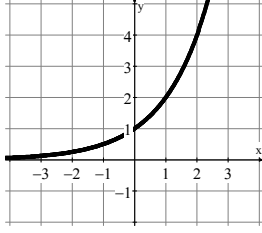
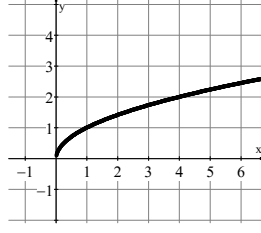
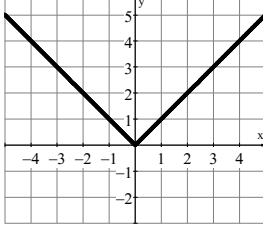
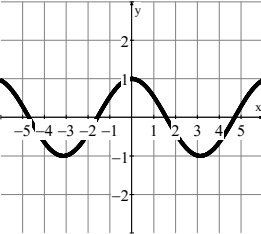
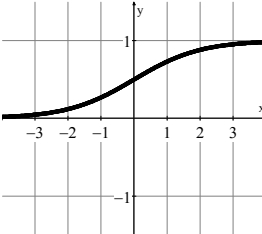
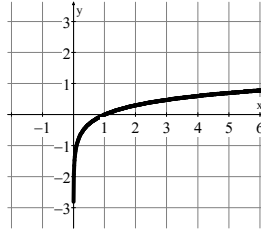
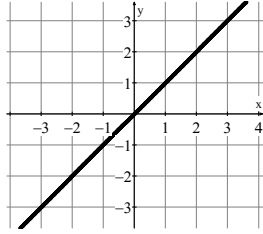
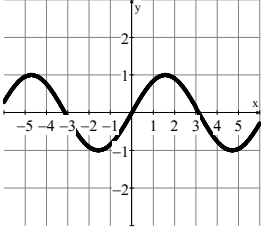
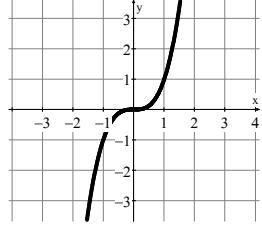
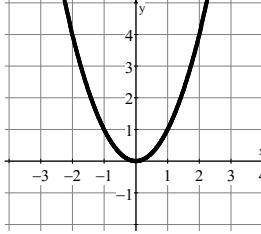
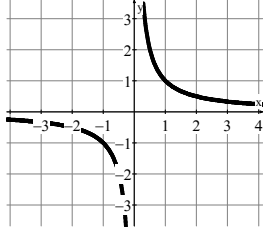


2.2 Practice – Domain and Range (Graphs)

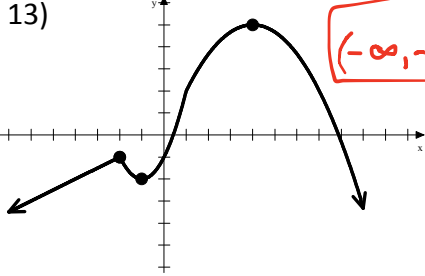
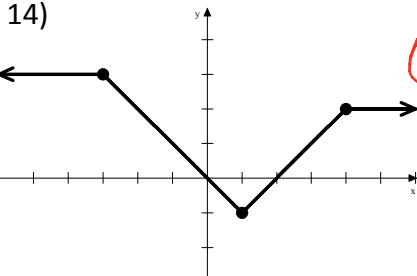
Name: _____

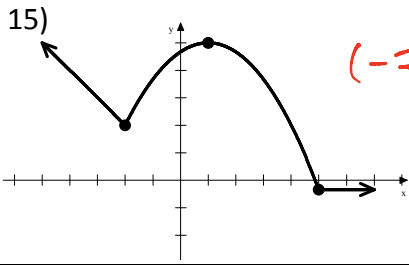
Pre-Calculus

For 1-12, name the basic function shown and write the equation. Try not to look back at your notes if possible.

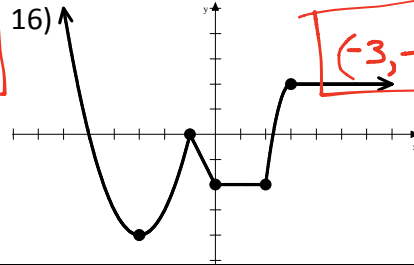
<p>1) Greatest integer Function</p>  <p>$f(x) = \text{int}(x)$</p>	<p>2) Exponential Function</p>  <p>$f(x) = 2^x$</p>	<p>3) Square root Function</p>  <p>$f(x) = \sqrt{x}$</p>	<p>4) Absolute value Function</p>  <p>$f(x) = x$</p>
<p>5) cosine Function</p>  <p>$f(x) = \cos(x)$</p>	<p>6) Logistic Function</p>  <p>$f(x) = \frac{1}{1+e^x}$</p>	<p>7) Logarithmic Function</p>  <p>$f(x) = \log_2 x$</p>	<p>8) Linear Function</p>  <p>$f(x) = x$</p>
<p>9) Sine Function</p>  <p>$f(x) = \sin(x)$</p>	<p>10) Cubic Function</p>  <p>$f(x) = x^3$</p>	<p>11) QUADRATIC Function</p>  <p>$f(x) = x^2$</p>	<p>12) RATIONAL Function</p>  <p>$f(x) = \frac{1}{x}$</p>

For 13-16, identify the domain intervals where each function is increasing, decreasing, and constant. Use interval notation.

<p>13)</p>  <p>Inc: $(-\infty, -2) \cup (-1, 4)$</p> <p>Dec: $(-2, -1) \cup (4, \infty)$</p> <p>Constant: \emptyset</p>	<p>14)</p>  <p>Inc: $(1, 4)$</p> <p>Dec: $(-3, 1)$</p> <p>Constant: $(-\infty, -3) \cup (4, \infty)$</p>
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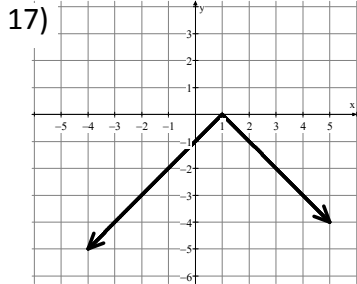


Inc: $(-3, 1)$
 Dec: $(-\infty, -2) \cup (1, 5)$
 Constant: $(5, \infty)$

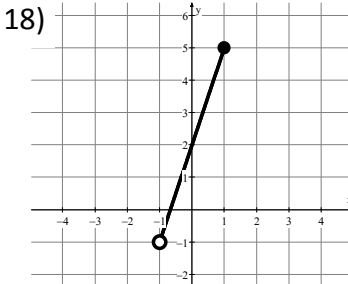


Inc: $(-3, -1) \cup (2, 3)$
 Dec: $(-\infty, -3) \cup (-1, 0)$
 Constant: $(0, 2) \cup (3, \infty)$

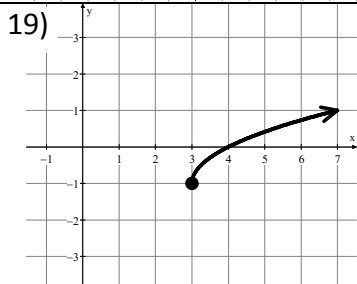
For 17-26, identify the domain and range of each function. Use both interval notation and inequality notation.



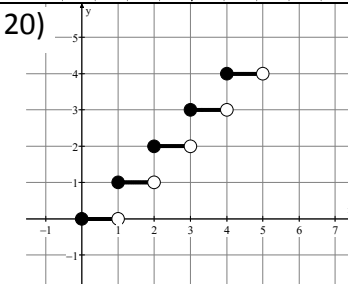
Domain:
 Interval: $(-\infty, \infty)$
 Inequality: \mathbb{R}
Range:
 Interval: $(-\infty, 0]$
 Inequality: $y \leq 0$



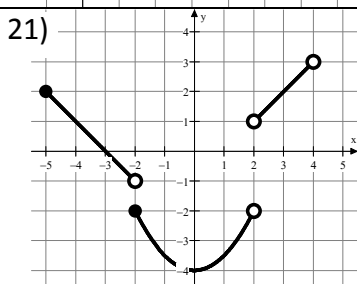
Domain:
 Interval: $[-1, 1]$
 Inequality: $-1 \leq x \leq 1$
Range:
 Interval: $[-1, 5]$
 Inequality: $-1 \leq y \leq 5$



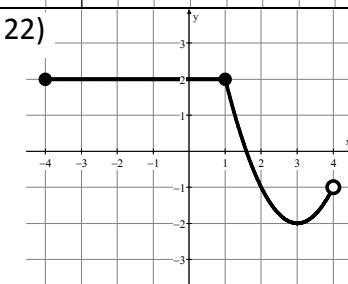
Domain:
 Interval: $[3, \infty)$
 Inequality: $x \geq 3$
Range:
 Interval: $[-1, \infty)$
 Inequality: $y \geq -1$



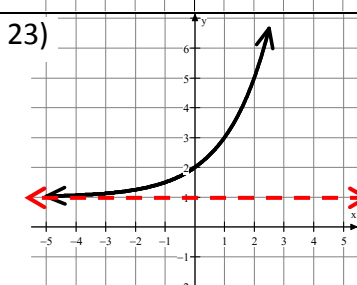
Domain:
 Interval: $[0, 5)$
 Inequality: $0 \leq x < 5$
Range:
 Interval: $\{0, 1, 2, 3, 4\}$
 Inequality: $0, 1, 2, 3, 4$



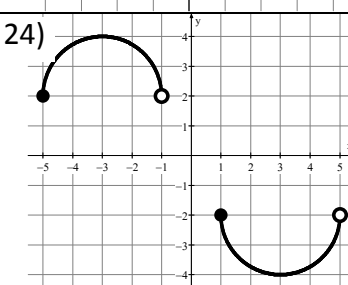
Domain:
 Interval: $[-5, 2) \cup (2, 4)$
 Inequality: $-5 \leq x < 2$ or $2 < x < 4$
Range:
 Interval: $[-4, -2] \cup (-1, 3)$
 Inequality: $-4 \leq y \leq -2$ or $-1 < y < 3$



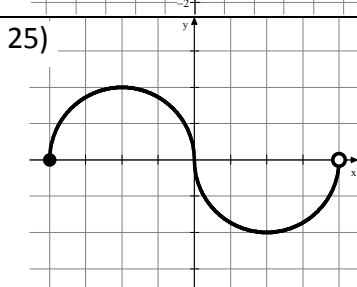
Domain:
 Interval: $[-4, 4)$
 Inequality: $-4 \leq x < 4$
Range:
 Interval: $[-2, 2]$
 Inequality: $-2 \leq y \leq 2$



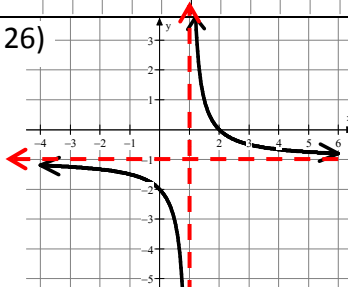
Domain:
 Interval: $(-\infty, \infty)$
 Inequality: \mathbb{R}
Range:
 Interval: $(1, \infty)$
 Inequality: $y > 1$



Domain:
 Interval: $[-5, -1) \cup (1, 5)$
 Inequality: $-5 \leq x < -1$ or $1 \leq x < 5$
Range:
 Interval: $[-4, -2] \cup [2, 4)$
 Inequality: $-4 \leq y \leq -2$ or $2 \leq y < 4$



Domain:
 Interval: $[-4, 4)$
 Inequality: $-4 \leq x < 4$
Range:
 Interval: $[-2, 2]$
 Inequality: $-2 \leq y \leq 2$



Domain:
 Interval: $(-\infty, 1) \cup (1, \infty)$
 Inequality: $x \neq 1$
Range:
 Interval: $(-\infty, -1) \cup (1, \infty)$
 Inequality: $y \neq -1$