**Multiple Choice**

|  |  |
| --- | --- |
| **1.** | If $ g\left(x\right)=\frac{2x-4}{x-2}$ then $ g\left(-4\right)$ **is:** |
|  | **a.)** $6$ | **b.)** $-3$ |
|  | **c.)** $12$ | **d.)** $2$ |

|  |  |
| --- | --- |
| **2.** | The domain of $h\left(x\right)=\frac{1}{\sqrt{x-6}}$ is: |
|  | **a.)** $[6,\infty )$ | **b.)** $(6,\infty )$ |
|  | **c.)** $[-6,\infty )$ | **d.)** $(-6,\infty )$ |

**3. Write each set of numbers in set-builder and interval notation.**

|  |  |  |
| --- | --- | --- |
| **Inequality Notation** | **Set-builder notation** | **Interval notation** |
| $$x\leq -4$$ |  |  |
| $$-5<x\leq 1$$ |  |  |
| $$-2\leq x or x\geq 5$$ |  |  |

**4. Evaluate piecewise function.**

|  |  |  |
| --- | --- | --- |
|  | $f\left(x\right)=\left\{\begin{array}{c} -x^{2}+7, if x<-1\\ -x^{3}, if -1<x<5\\ 2, if x>5\end{array}\right.$$$f\left(-2\right)=?$$$$f\left(3\right)=?$$ |  |

**5. Find the functions value.**

|  |  |
| --- | --- |
|  | $$ h\left(x\right)=\frac{x^{2}+2x+4}{2x^{2}-x-1}$$$$h\left(-3\right)=? h\left(m+4\right)=? $$ |
|  |  |  |

**ANSWERS**

**Multiple Choice**

|  |  |
| --- | --- |
| **1.** | If $ g\left(x\right)=\frac{2x-4}{x-2}$ then $ g\left(-4\right)$ **is:** |
|  | **a.)** $6$ | **b.)** $-3$ |
|  | **c.)** $12$ | **d.)** $2$ |

|  |  |
| --- | --- |
| **2.** | The domain of $h\left(x\right)=\frac{1}{\sqrt{x-6}}$ is: |
|  | **a.)** $[6,\infty )$ | **b.)** $(6,\infty )$ |
|  | **c.)** $[-6,\infty )$ | **d.)** $(-6,\infty )$ |

**3. Write each set of numbers in set-builder and interval notation, if possible.**

|  |  |  |
| --- | --- | --- |
| **Inequality Notation** | **Set-builder notation** | **Interval notation** |
| $$x\leq -4$$ | {$ x| x\leq -4, x\in R\}$ | $$(-\infty ,-4]$$ |
| $$-5<x\leq 1$$ | $$\{x|-5<x\leq 1,x\in R\}$$ | $$(-5,1]$$ |
| $$-2\leq x or x\geq 5$$ | {$ x| -2\leq x or x\geq 5, x\in R\}$ | $$(-\infty ,-2]∪[5,\infty ]$$ |

**4. Evaluate piecewise function.**

|  |  |  |
| --- | --- | --- |
|  | $f\left(x\right)=\left\{\begin{array}{c} -x^{2}+7, if x<-1\\ -x^{3}, if -1<x<5\\ 2, if x>5\end{array}\right.$$$f\left(-2\right)=?$$$$f\left(3\right)=?$$ | $$To find f\left(-2\right) use f\left(x\right)=-x^{2}+7$$$$f\left(-2\right)=-\left(-2\right)^{2}+7$$$$f\left(-2\right)=-4+7$$$$f\left(-2\right)=3$$$$To find f(3) use f\left(x\right)=-x^{3}$$$$f\left(3\right)=-3^{3}$$$$f\left(3\right)=-27$$ |

**5. Find function value.**

|  |  |
| --- | --- |
|  | $$ h\left(x\right)=\frac{x^{2}+2x+4}{2x^{2}-x-1}$$$$h\left(-3\right)=? h\left(m+4\right)=? $$ |
|  | $$h\left(-3\right)=\frac{\left(-3\right)^{2}+2\*(-3)+4}{2\left(-3\right)^{2}-(-3)-1}$$$$h\left(-3\right)=\frac{9+2\*(-3)+4}{2\*9-(-3)-1}$$$$h\left(-3\right)=\frac{9-6+4}{18+3-1}$$$$h\left(-3\right)=\frac{3+4}{21-1}$$$$h\left(-3\right)=\frac{7}{20}$$ | $$h\left(m+4\right)=\frac{\left(m+4\right)^{2}+2\left(m+4\right)+4}{2\left(m+4\right)^{2}-\left(m+4\right)-1}$$$$h\left(m+4\right)=\frac{m^{2}+8m+16+2m+8+4}{2(m^{2}+8m+16)-\left(m+4\right)-1}$$$$h\left(m+4\right)=\frac{m^{2}+10m+28}{2m^{2}+16m+32-m-4-1}$$$$h\left(m+4\right)=\frac{m^{2}+10m+28}{2m^{2}+15m+27}$$ |