**1. Complete the following statement.**

|  |  |
| --- | --- |
| **a.** | $$\left(\frac{f}{g}\right)\left(x\right)=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_ where g(x)\\_\\_\\_\\_0$$ |
| **b.** | The domain of the composite function$ f∘g$ is the set of all such that: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

**2. Write T for true or F for false**

|  |  |  |
| --- | --- | --- |
| **a.** | $$\left(f\*g\right)\left(x\right)=\left(f∘g\right)\left(x\right)$$ |  |
| **b.** | $$\left(f∘g\right)\left(x\right)\ne \left(g∘f\right)\left(x\right)$$ |  |

**Multiple Choices**

**3.** **If** $f\left(x\right)=x$ **and** $g\left(x\right)=x+3, $**then**$ \left(f\*g\right)\left(x\right)$ **is:**

|  |  |  |
| --- | --- | --- |
| **a.** | $$x^{2}+3x$$ |  |
| **b.** | $$x^{2}+3$$ |  |
| **c.** | $$x+3$$ |  |

**4. If** $f\left(x\right)=2x+2$ **and** $g\left(x\right)=x-1$**, then**$ \left(f-g\right)\left(x\right)$ **is:**

|  |  |  |
| --- | --- | --- |
| **a.** | $$x+1$$ |  |
| **b.** | $$x+3$$ |  |
| **c.** | $$x-1$$ |  |

**5. If** $f\left(x\right)=\sqrt[3]{x}$ **and** $g\left(x\right)=x^{3}$**, then**$ \left(f∘g\right)\left(x\right)$ **is:**

|  |  |  |
| --- | --- | --- |
| **a.** | $$1$$ |  |
| **b.** | $$x$$ |  |
| **c.** | $$-x$$ |  |

**ANSWERS**

**1. Complete the following statement.**

|  |  |
| --- | --- |
| **a.** | $$\left(\frac{f}{g}\right)\left(x\right)=\frac{f(x)}{g(x)} where g(x)\ne 0$$ |
| **b.** | The domain of the composite function$ f∘g$ is the set of all such that: $x$ is in the domain of$ g$ and$ g\left(x\right) $is in the domain of $f$. |

**2. Write T for true or F for false**

|  |  |  |
| --- | --- | --- |
| **a.** | $$\left(f\*g\right)\left(x\right)=\left(f∘g\right)\left(x\right)$$ | **F** |
| **b.** | $$\left(f∘g\right)\left(x\right)\ne \left(g∘f\right)\left(x\right)$$ | **T** |

**Multiple Choices**

**3.** **If** $f\left(x\right)=x$ **and** $g\left(x\right)=x+3, $**then**$ \left(f\*g\right)\left(x\right)$ **is:**

|  |  |  |
| --- | --- | --- |
| **a.** | $$x^{2}+3x$$ |  |
| **b.** | $$x^{2}+3$$ |  |
| **c.** | $$x+3$$ |  |

**4. If** $f\left(x\right)=2x+2$ **and** $g\left(x\right)=x-1$**, then**$ \left(f-g\right)\left(x\right)$ **is:**

|  |  |  |
| --- | --- | --- |
| **a.** | $$x+1$$ |  |
| **b.** | $$x+3$$ |  |
| **c.** | $$x-1$$ |  |

**5. If** $f\left(x\right)=\sqrt[3]{x}$ **and** $g\left(x\right)=x^{3}$**, then**$ \left(f∘g\right)\left(x\right)$ **is:**

|  |  |  |
| --- | --- | --- |
| **a.** | $$1$$ |  |
| **b.** | $$x$$ |  |
| **c.** | $$-x$$ |  |