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| 1. Write an equation that expresses “*P* is jointly proportional to *x* and *y* and inversely proportional to the square of *d* and the square root of *c*.” |

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| 2. Express the statement as a formula.​*s* is inversely proportional to the square of *t.*​If *s* = 6 and *t* = 13, what is the constant of proportionality? |

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| 3. Evaluate the function $f\left(x\right)= \frac{t+2}{t-2}$ at *f*(-3) ​ |

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| 4. Evaluate the following piecewise defined function at the values *f* (–4), *f* (7), and *f* (10).​$$f\left(x\right)=\left\{\begin{matrix}x^{2}+2x&if x\leq -1\\x&if-1<x\leq 3\\-1&if 3<x\end{matrix}\right.$$​*f* (–4) = \_\_\_\_\_\_\_\_\_\_​*f* (2.5)  = \_\_\_\_\_\_\_\_\_\_​*f* (10)  = \_\_\_\_\_\_\_\_\_\_ |
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| 5. Find the domain of the following function:​$$f\left(x\right)= \frac{6}{3x-9}$$​Express your answer using interval notation. |

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| 6. Find the domain of the following function:$$f\left(x\right)= \frac{2}{\sqrt{7-3x}}$$​Express your answer using interval notation. |

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| 7. For the function *f* (*x*) = *x* 2 -2x + 1, find​​ |

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| 8. For the function$f\left(x\right)= \frac{2x}{x-1}$, find, where  |

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| 9. Find the net change in the value of the function between the given inputs.$f\left(x\right)= -x^{2}+3x-10$; from -3 to 2​ |